# The Madras Forest College Magazine

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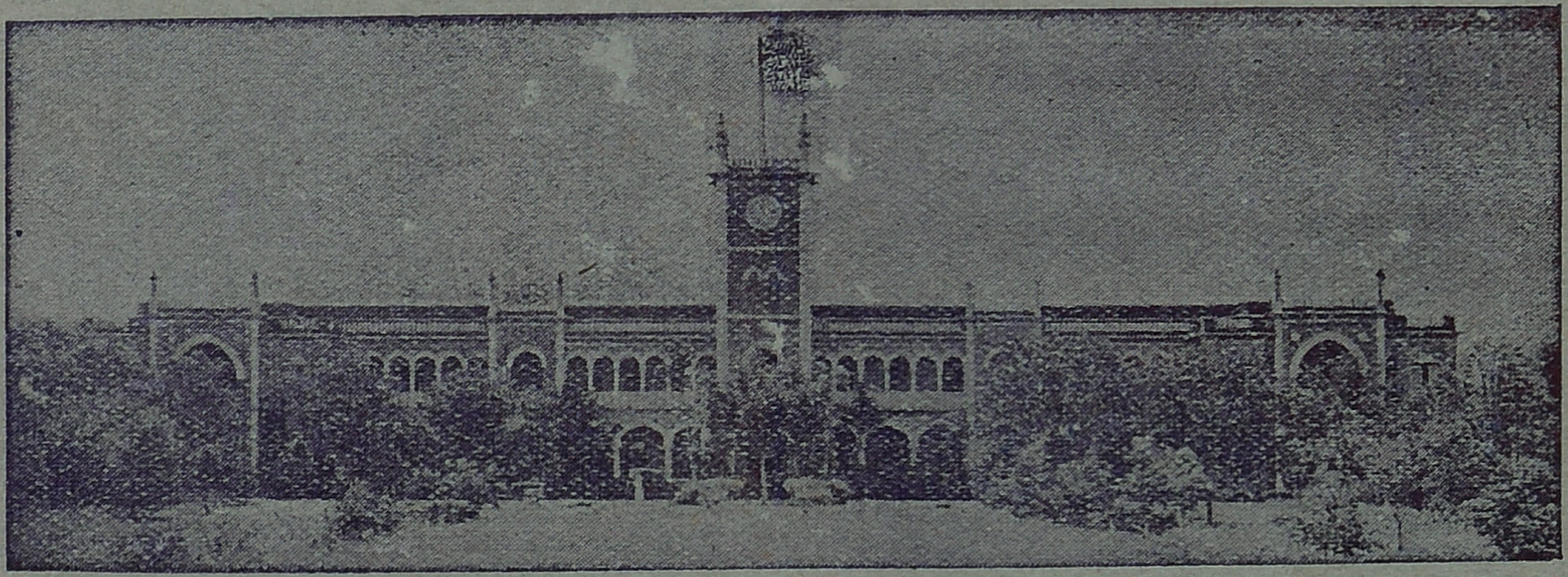

Vol. XXVI | JULY 1950 | No 3

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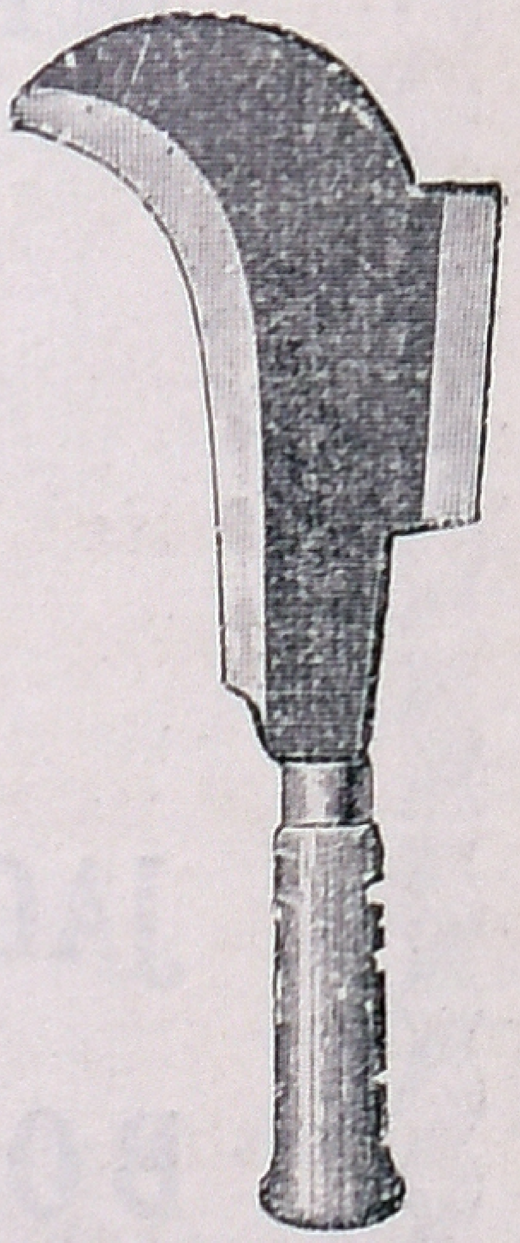

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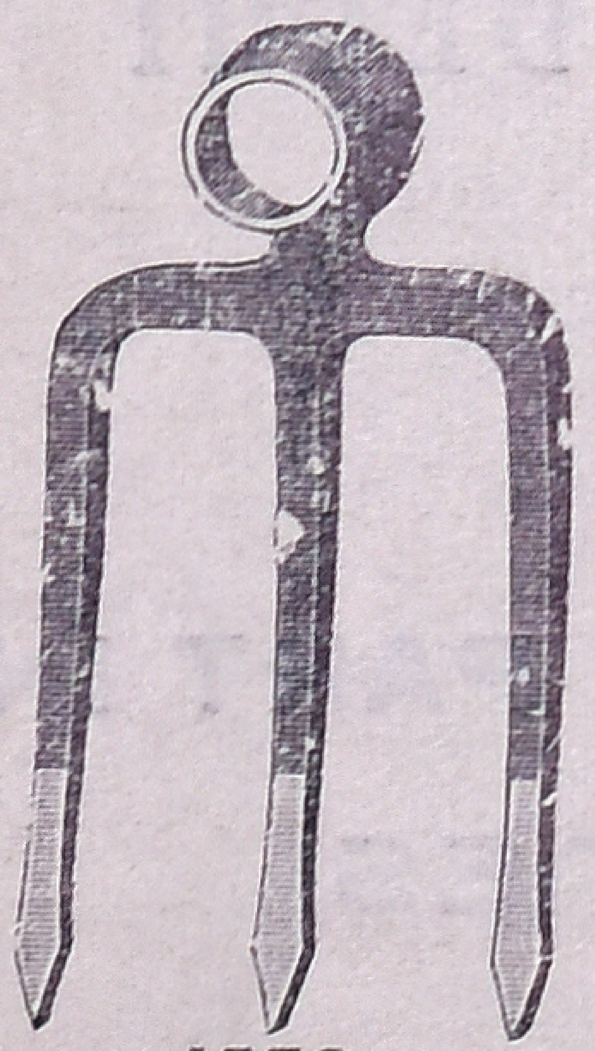

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THE

# Madras Forest College Magazine.

Published Quarterly.

| Vol. XXVI | JULY 1950 | No. 3 |
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*N. B. Contributors are requested to send in their contributions written legibly in ink on one side of the paper only or in type-script.*

**OUR NEW MINISTER FOR FOOD, AGRICULTURE AND FORESTRY.** We welcome the appointment of Sri K. M. Munshi as the Minister for Forestry, Govt. of India. There could not have been a better choice than Sri K. M. Munshi. With his vast knowledge and experience we expect that he will steer India out of the present Food crisis.

**Vana Mahotsava.** Hon'ble Sri K. M. Munshi has started attacking the Food front from many angles. We hear the news of sending students for advanced training in practical farming, and intensifying the G. M. F. Campaign and reclamation of waste land; co-ordination between Forest and Agriculture also is being planned. It is a happy sign that the importance of tree cover over a proportionate area of the country is realised. Very often than not, in the zealous persuit of 'G. M. F.' Campaign the inter-relationship between forestry and agriculture is neglected or forgotten. In the words of President F. R. I. & Colleges DehraDun, "we may like to think that agriculture comes before pasture, and both before forestry, but their relative order of priority is not important, for the plain truth is that all of them form a close nexum on which human life depends and the neglect of one inevitably damages the other. Balanced land utilization is the foundation of national prosperity." H. E. the Maharaja of Bhavanagar, Governor of Madras State, has rightly pointed out and laid stress in his address to the convocation of the Madras Forest College, "The devastation of forests in our agricultural region is the direct cause of the low yield of food crops." "The in[illegible] of our

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agricultural economy and our forest wealth is a factor which not only the people but even our Governments have often lost sight of. This factor has not only been often ignored in many instances—as in our Grow More Food drive—we have sacrificed our forest wealth in the mistaken belief that we are increasing our agricultural productivity."

In an atmosphere as this, it is gratifying to see the interest is being taken in Grow-More-Tree campaign. Hon'ble Minister has given a correct lead. What interests us more is the support the appeal has received, both from the public and the press. According to newspaper reports, the target of 1 crore trees set by the Hon'ble minister is likely to be doubled. Probably this is the direct result of the interest shown by our President, the Prime Minister, other ministers of the Union Cabinet, Governors of various states and the various State Governments. The President is reported to be very much interested in gardening, and is taking personal interest in the Tree-Planting Ceremony at Raj Ghat and the Government House, Delhi. Similar reports from Calcutta and Bombay are forth coming. Bombay Government have sanctioned a sum of Rs 9,200/- to be given in the shape of three prizes of Rs. 200/-, Rs. 100/- & Rs. 50/- each, to the villages in each district, which not only plants the largest number of seedlings, but also takes care for the whole year. The Madras, Mysore, Punjab & Hyderabad Governments have made arrangements to make the seeds, seedlings or cuttings available at various centres, free of cost or at nominal rates. The Madras Corporation itself has planned to plant about 10,000 seedlings in the City. The Madhya bharath Government has sent a consignment of 500 varieties of mango to Delhi, as a gift, to be planted at Raj Ghat in the Tree-Planting Week. According to Sri V. R. Valunjkar, Honorary adviser to the Food ministry, Govt. of India, the various States have fixed their target as follows :—

| | | | |
|---|---|---|---|
| Delhi | — 3,000. | Madras | — 40,00,000. |
| U. P. | — 15,00,000. | Mysore | — 25,00,000. |
| W. Bengal | — 10,00,000. | Bombay | — 25,00,000. |
| Bihar | — 15,00,000. | Hyderabad | — 5,00,000. |
| Orissa | — 10,00,000. | | |

Trees are expected to be planted at Brindaban, Conjeevaram, Tirupati Jaganathpuri and Cape-Comerin—besides Raj Ghat. Government

have directed to plant trees on all available land, including Govt. waste lands, & along Roads, rails & canals.

We fully support the appeal of the Hon'ble Minister and sincerely hope that the programme, as stated above, shall be a success. We hope that the plan, which is at present on paper, will be fully implemented. In this connection we would also venture to offer certain suggestions. It is not enough to plant seedlings in properly prepared pits, and then leave them to themselves. What is more important is their after care. Seedlings are very delicate in their initial stages and require care as that of a new born from the mother. They have got to be watered. They have to be protected from browsing and grazing of cattle — the most destructive being goats. Proper fence round the pits should be constructed.

Another fundamental point which requires attention, even prior to planting, is the selection of the right seedlings. We have to find out what particular species, come up well in a particular locality. Apart from this consideration, we have to select fast growing or shade giving species. It is no use planting ornamental and pot plants—though some may be inclined to think "something is better than nothing", but we, as students of forestry, shall always prefer species which are either useful as fuel and timber or important for soil and moisture conservation, or for their fruits. The advice given by His Excellency Sri Asaf Ali, Governor of Orissa, is very sound and requires special attention of the authorities concerned.

It will not be out of place to mention about 'Farm Forestry'. The editorial of the 'Indian Forester' of March 1950 deals with this subject thoroughly. We are mentioning it here, to draw the attention of the authorities in this direction. An All India scheme on these lines is also necessary. Forestry consciousness should be awakened in the millions of villagers, rather than the urban, population. More propaganda is necessary on a 'war' basis, to make the villagers realise their importance in maintaining the economy of the country.

**Central Forestry Board.** We welcome the appointment of the Central Forestry Board. We were rather looking forward for such an organization. It is very essential, as is now being realised, that

forests should not be the concern of any one State. The centre must co-ordinate the policies of the various States; keeping in view the effect of one over the neighbouring State. Infact, as I. G. of Forests, Govt. of India has stated in his Press-Conference on the 25th June 1950 at M. F. C., that 'the climate of the Country, as a whole, is effected by forests,' suggests that Forestry should be made a central subject. We consider the constitution of this board as a first step towards centralisation.

**Convocation:—** The convocation of the Madras Forest College, Coimbatore, was held on Sunday, the 25th June 1950 at 4-00 P. M. in the Assembly Hall. His Excellency the Governor of Madras presided over the function and gave away the certificates and prizes to the Officer and Ranger students of the 1948—50 course. It is unfortunate that only two out of the thirty-two officer students could attend the function. A distinguished gathering of large number of officials and non-officials was present. Forest Department of the Madras State was fully represented. Hon'ble Sri Sanjeeva Reddy, Minister for Forests, Govt. of Madras was kind enough to attend the function. We had the privilege of meeting our first Indian Inspector-General of Forests with the President, F. R. I. & Colleges, for the first time. His Excellency the Governor arrived exactly at 3-50 P. M. and was received by the Principal. A Guard of Honour was presented by the out-going Ranger students (48—50) infront of the College building. The I. G. of Forests, Govt. of India, and the President F. R. I. & Colleges were then introduced to H. E. the Governor, who was conducted to the neatly decorated and fully packed Assembly hall. The function started with the welcome address of the President, F. R. I. & Colleges and ended with an 'austerity' tea arranged in the spacious Engineering Hall and the adjoining varandahs.

**Ranger Class 1948—50**: The '48—'50 batch of Ranger Students is passing out of the College on 30th June 1950. We wish them a happy future. We hope they shall maintain the dignity of the *alma-meter* wherever they go. We congratulate Sri Rangadhar Misra and others who got prizes. Sri R. Misra is the only candidate who got honours this year. We wish him God speed and all success.

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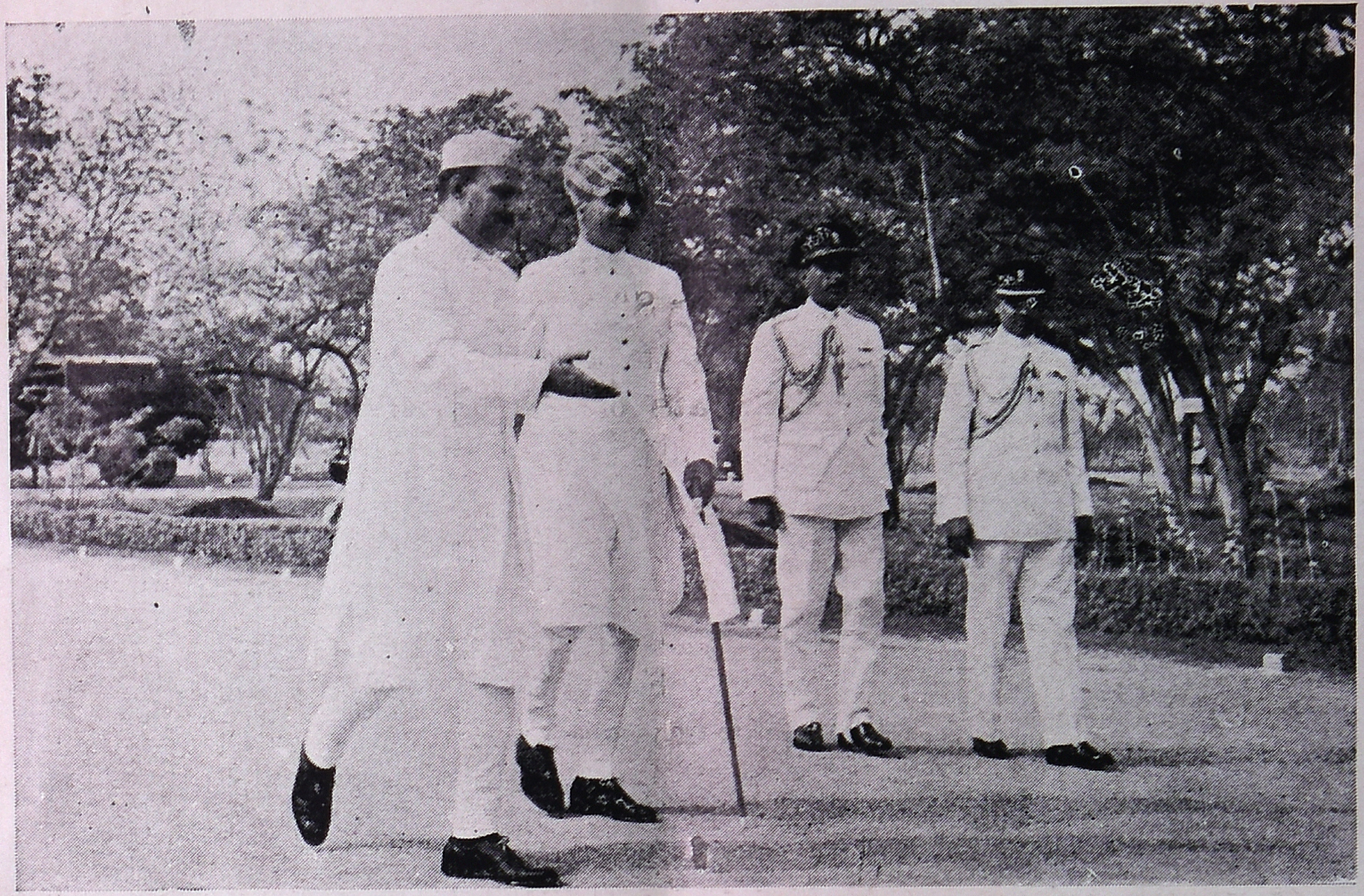
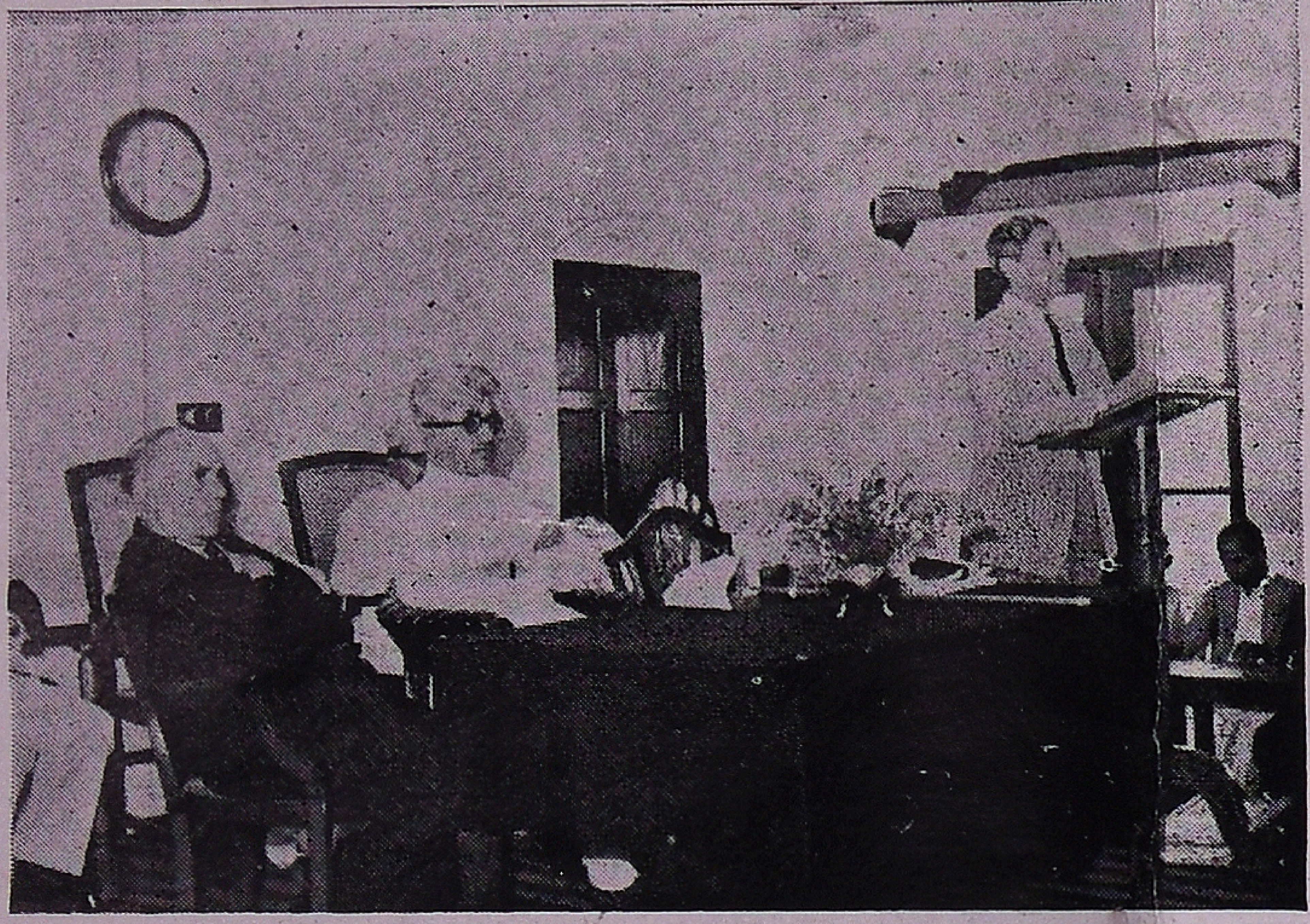


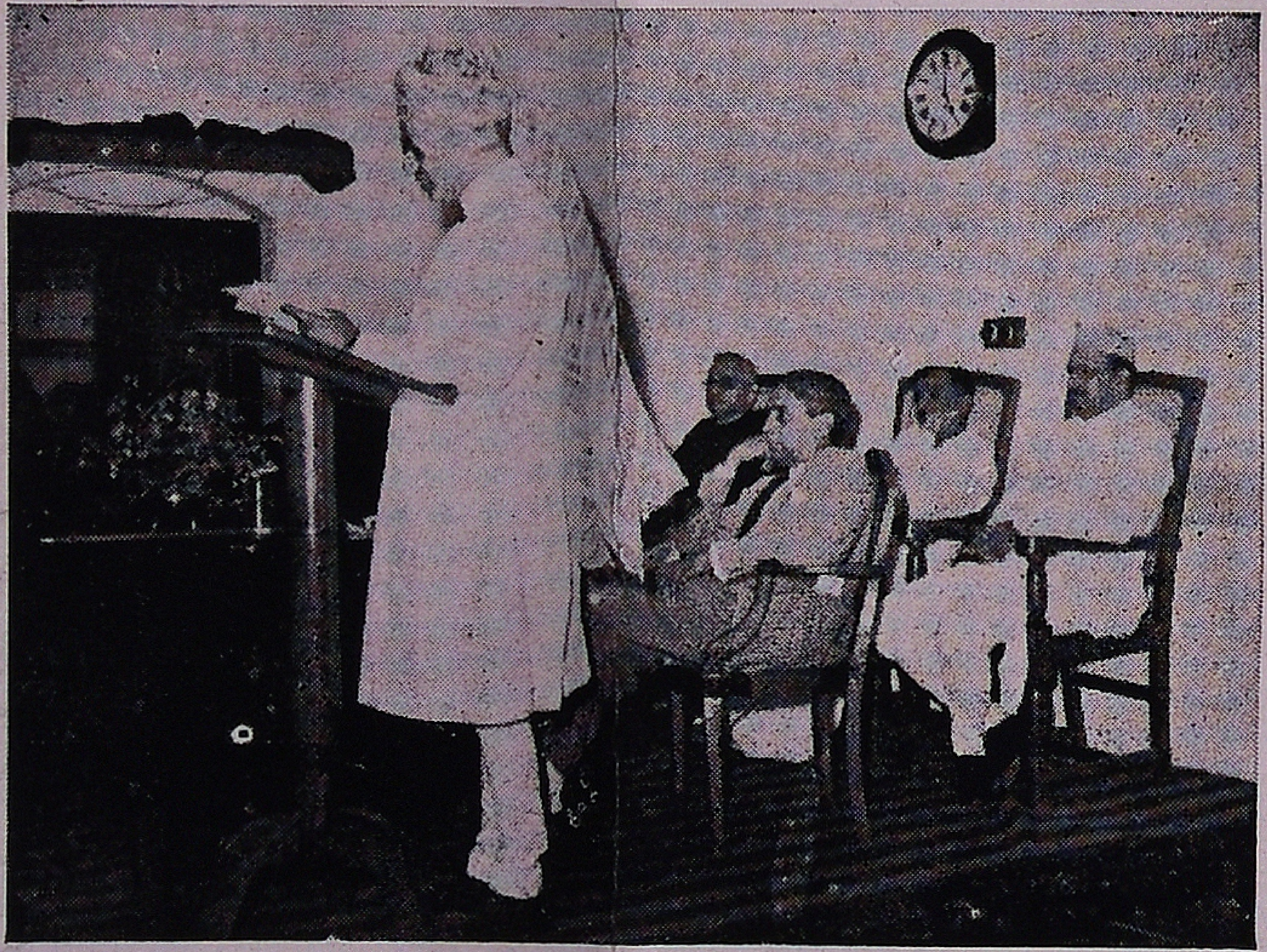
The Principal, M. F. C., conducting His Excellency towards the Guard of Honour.

His Excellency the Governor of Madras inspecting the Guard of Honour
given by the out-going Ranger Students ('48—'50)



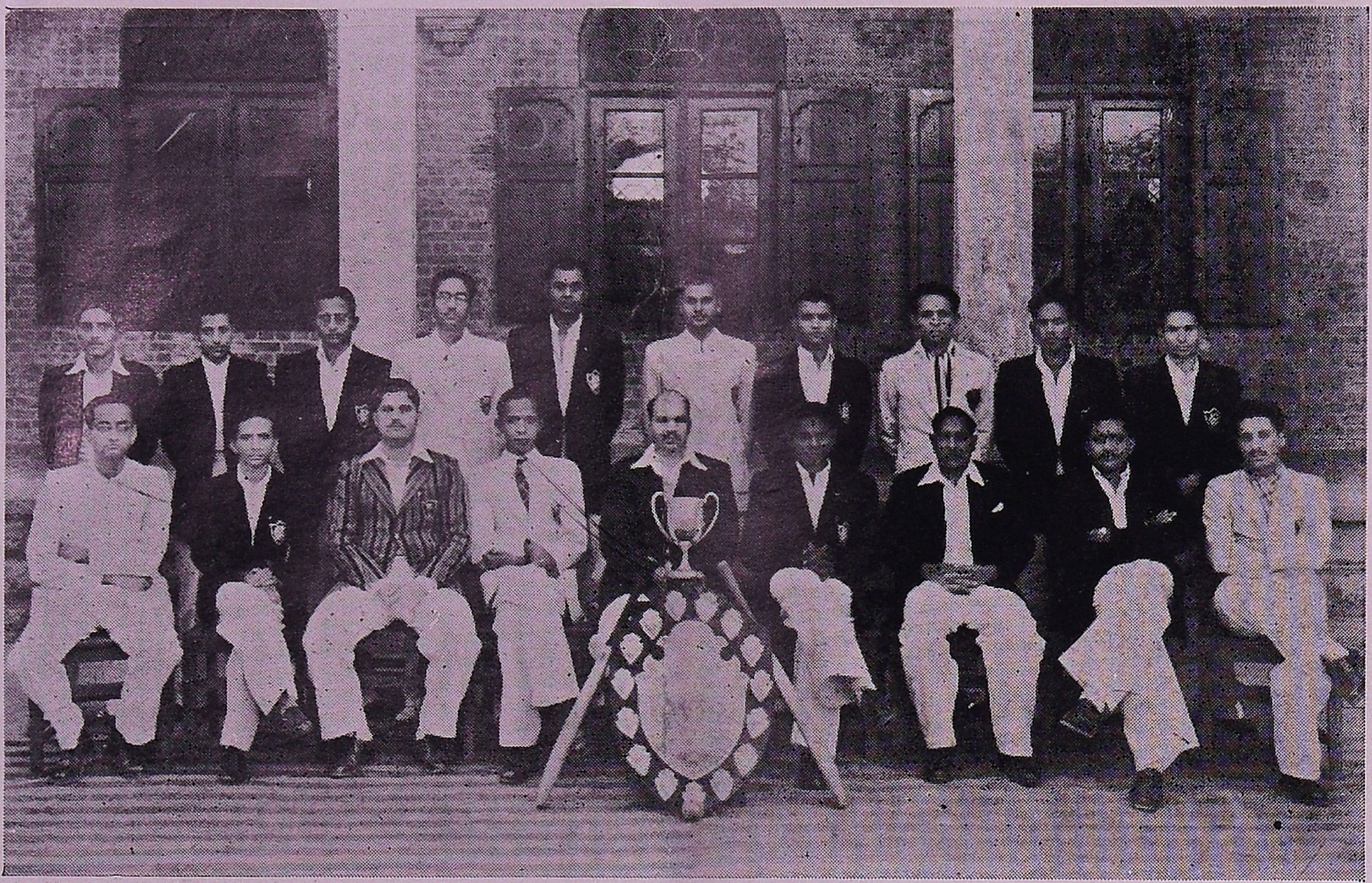
President, F. R. I. delivering his welcome address.

Inspector-General of Forests reading the message from Hon. Sri K. M. Munshi, Minister for Forests Food and Agriculture, Govt. of India.



His Excellency the Governor of Madras Addressing the Convocation of the Madras Forest College.

## Madras Forest College, Cricket Team : 1949—'50.

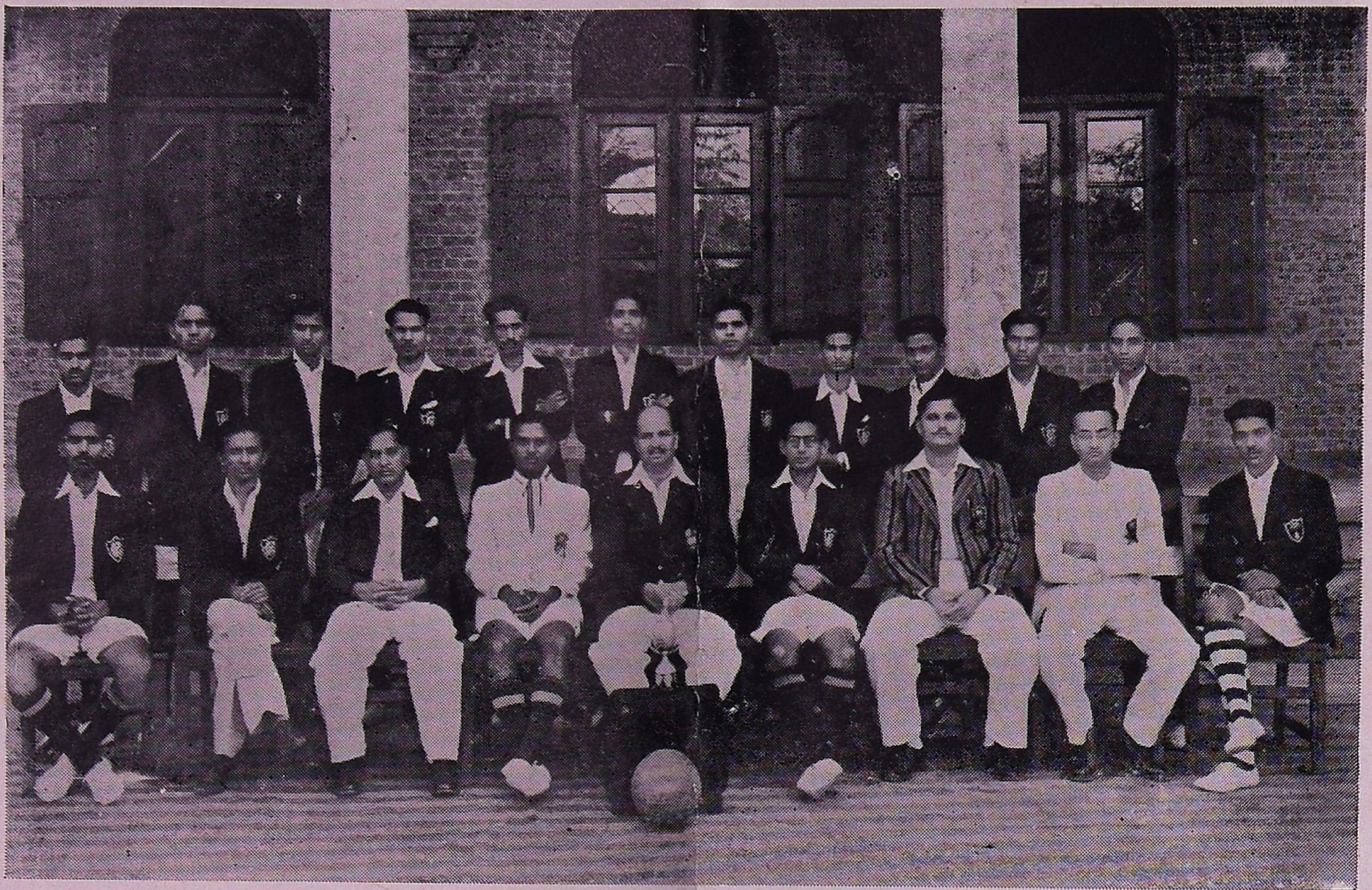


*L. to R. (Standing)*:- D. V. Badnikar, C. R. Thirumurthy, F. L. M. Perera A. K. Mathur, A. K. Pillai, P. R. Vaidya, K. Y. Sathe, V. V. Khot, C. Dissanayeke, B. A Vadgama.
„ *(Sitting)*:- M. Y. Sowani, W. E. S. Goonewardene, Sri V. D. Mehendale, M. Shanmuganathan, Janab A. A. Khan (Principal), E. C. D. Z. Weerawardane, Sri K. Krishnamoorthy, H. Senanayake, P. D. Chapgar.

## Madras Forest College, Hockey Team : 1949—'50.

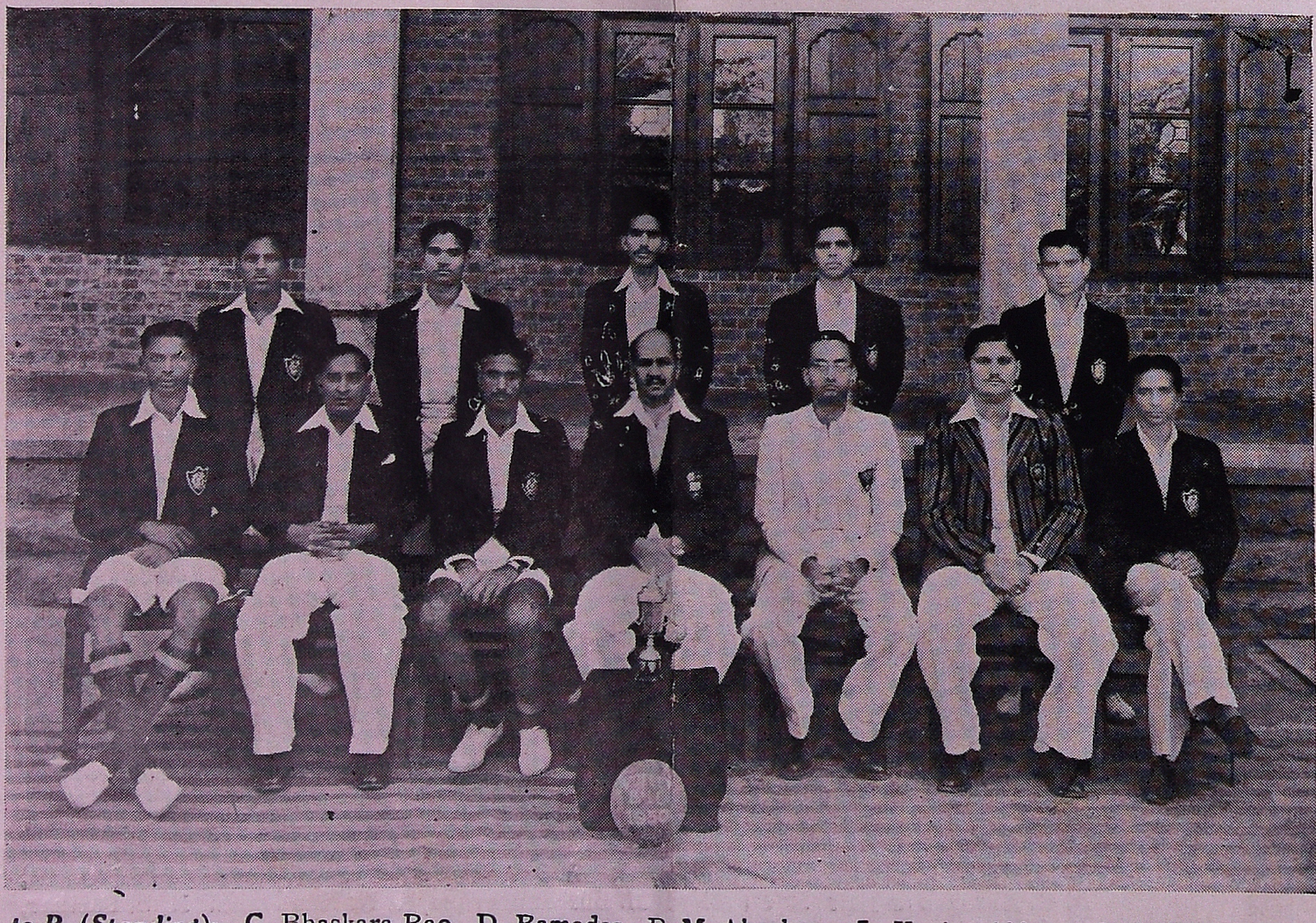
*L. to R. (Standing)*:- A. Minj, K. James Paul, B. J. Burman, A. S. Achappa, C. P. Bhimaraj, R. L. Avasti, A. K. Narayanan Nair R. D. Misra, M. Suryanarayana, A. N. Rao Naidu H. S. Parihar, K Y Sathe.
„ *(Sitting)*:- W. E. S. Goonewardene, N. M. Trivedi Sri V. D. Mehendale, S. L. Srivastava, Janab A.A. Khan (Principal), P.S. Chadha, Sri K. Krishnamoorthy, M.Y. Sowani, G. Shanker Rao.

## Madras Forest College, Foot Ball Team : 1949—'50.



*L. to R.* (*Standing*):- Md Hussain Khan, C. R. Bhouraskar, B. J. Burman, R. D. Misra, A. K. Narayanan Nair, B. Krishna Rai, L. Kurian Akkara, N. Mohanty, A.N.R. Naidu, V.S. Holihusur, D.P. Ghosh.
„ (*Sitting*):- P. M. Abraham, W. E. S. Goonewardene, Sri K. Krishnamoorthy, J. J. Dutta, Janab A. A. Khan (Principal), A. K. Ghosh, Sri V. D. Mehendale, M. Y. Sowani, B. M. Pujari.

## Madras Forest College, Volley Ball Team : 1949—'50.



*L. to R.* (*Standing*):- C. Bhaskara Rao, D. Ramadas, P. M. Abraham, L. Kurian Akkara, K. Y. Sathe.
" (*Sitting*).- Y. S Kadakshamani, Sri K. Krishnamoorthy, A K. Narayanan Nair, Janab A. A. Khan (Principal), M. Y. Sowani, Sri V. D. Mehendale, W. E. S. Goonewardene.

# Speech by Sri C. R. Ranganathan, I. F. S., President, Forest Research Institute & Colleges.

Your Excellency, Shri Sanjeeva Reddi, Ladies and Gentlemen,

In declaring this Convocation open, it gives me great pleasure to welcome you all today. We are very grateful to His Excellency the Governor of Madras for the honour he has done us in consenting to to be present here to-day and to address the Convocation. The Princes of India are justly famed for their love of forests and their patronage of forestry, and the Maharaja of Bhavanagar is no exception to this rule. Indian forestry owes a debt of gratitude to the princely order for the protection it has afforded in the past to the forests under its control—in particular to the wild life associated with it. But for the protecting hand of the princes, many of the forests in the old Indian States would have been devastated and the wild life of India — which is the envy of the world—would have become immeasurably the poorer. I am sure we can count on the valuable support of His Excellency in our perpetual crusade against abuse and destruction of forests.

I have also great pleasure in welcoming the Hon'ble Shri Sanjeeva Reddi, Minister for Forests in Madras. His presence here today is proof of his great interest in forestry and gives us great encouragement in our task.

There are certain broad features about forestry which are quite well known, but which nevertheless I think it may be useful to draw attention to on an occasion like this. Firstly, forestry is a long term enterprise and forest crops reach maturity in periods extending over decades and often exceeding a century. This is a fact which most people know, but its implications are not equally widely recognized. A long term enterprise cannot be successful unless it is assured of stability of tenure, security, continuity of policy and skilled management. We must once for all make up our minds what areas must be dedicated to forests and when this is done never allow any other form of land use to encroach upon them. The notion that woodlands are a reserve of land for the progressive extension of

cultivation must be finally abandoned. Unless steps are taken to restrict rights of user and to protect the growing stock from theft or fire or abuse, by suitable legislation, it would be obviously impossible to show good results in an enterprise extending so largely in time and space as forestry does. We have here to contend against a peculiar failing of the human mind which regards public property as fair game and which permits, and even applauds, infractions of Government regulations relating to publicly owned land or utilities. We have all met people who boast of having travelled without tickets in railway trains or of having smuggled things through the customs. There is a similar laxity of conscience in the matter of using the forest for grazing and for taking timber and firewood out of it and for illicit shooting. We have continually to fight against the belief that public property is anybody's property and that anyone is free to do what he likes with it.

Secondly, there are three and only three ways in which land can be put to productive use. They are agriculture, forestry and pasture. There are, of course, many other ways in which land is utilized. For example we may make football fields and amusement parks, build houses and towns, railway lines and canals, but these are not uses in which the direct productivity of the soil plays a part. We may like to think that agriculture comes before pasture and both before forestry, but their relative order of priority is not important, for the plain truth is that all of them form a close nexus on which human life depends and the neglect of one inevitably damages the others. Balanced land utilization is the foundation of national prosperity. This means not only that a sufficiency of land should be allotted to forests, agricultural crops including cash crops and fruit culture, and pasture but also that every acre of land should be put to its right use. Viewed in this light, the question of priorities becomes a relatively simple matter. The form of land-use that should be given priority is that for which the land is best fitted and under which it can maintain perpetual productivity. To play up agriculture against forestry and to nibble away the remnants of our forests for the sake of an unplanned and improvident extension of agriculture is in effect to do a serious dis-service to agriculture itself.

The public has now begun to give serious thought to the question of forestry and tree cover in our land. No one bothers about famine in an area of plenty. A healthy man never worries about his health ; it is the sick man who does. The public agitation about forests and trees is a sign that all is not well with the country on the forestry front. This interest in forestry and tree growing, which the Government of India is canalising in the shape of an annual *Vana Mahotsava*, is a wholesome reaction of the country. In the task of restoring greenery to our land, the forest colleges here and at Dehra Dun have a very important part to play.

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# Annual report for 1949–50 presented by the Principal, Madras Forest College, Coimbatore at the Convocation held on 25–6–1950.

Your Excellency, Ladies and Gentlemen,

On behalf of the staff and students of the Madras Forest College and on my behalf permit me to associate myself with the words of welcome spoken by the President, Forest Research Institute & Colleges, Dehra Dun. We feel specially happy that His Excellency the Governor of Madras has kindly agreed to grace the occasion with his presence and to honour us by addressing the Convocation. We realise gratefully that in doing so he has shown signal consideration to the Madras Forest College in particular and to the forestry profession in general, for we know that his time is precious and the calls on it, many and various.

I also take this opportunity to extend a cordial welcome to Sri M. D. Chaturvedi, I. F. S., Inspector-General of Forests, who is visiting the College for the first time since he took charge of his exalted office last year.

2. **History of the Madras Forest College :—** On an occasion like this it is perhaps permissible to give a precis of the past history of

this College. The Madras Forest College was opened in 1912 at Coimbatore by the Government of Madras primarily for the purpose of training Forest Rangers for employment in the Province. An arrangement was subseqnently made with the Government of India under which the country was divided into a northern and a southern zone the former sending its students to Dehra Dun and the latter (which included the Provinces of Bombay, Central Provinces, Bihar, Orissa and Madras) to Coimbatore for Ranger training. Thus even as early as 1920, the Madras Forest College was recognised by all as a regional institution catering to the needs of peninsular India and although operated by a provincial Government it was closely modelled on the Dehra Dun College, with which it maintained regular contact. It may however be noted that while the cost of the College at Dehra Dun was borne by the Government of India, that of the Madras Forest College fell on the Madras Government. In the thirties the number of Madras students in the College became a progressively dwindling fraction of the total strength of the College and it was felt that the expenditure incurred by the Government of Madras on the College was out of proportion to the benefits conferred on the Province. It was therefore ordered to be closed with effect from 1—7—1939.

It may be of interest to note that the College at Dehra Dun was also closed from 1933 as a result of stoppage of recruitment caused by the necessity for retrenchment due to the world wide trade depression. But while the temporary closure of the College at Dehra Dun merely meant the suspension of one of the activities of the Forest Research Institute, the abolition of the Madras Forest College led to the destruction of valuable and painfully built up tradition and experience, the scattering of equipment and the conversion of buildings and grounds to various miscellaneous purposes.

3. It was however fortunate that the need to reopen the Forest College was recognised within the next few years. The Forest Sub-Committee of the Post-war General Reconstruction Committee of the Madras Government recommended the reopening of the College as a special priority scheme, as it was felt that the Madras Province alone would require about 300 candidates to be trained for

appointment as Rangers in course of the next ten years and that it would not be possible for Dehra Dun to undertake to train so many Rangers for one Province alone. The Madras Government accepted the recommendations of the Committee and the College was reopened as a parmanent measure from 1—10—'45 in its old premises.

Subsequent to the reopening of the College, three batches of Ranger students have been trained and they have passed out of the College (i. e. 1945-47, 1946-48 and 1947-49 batches).

4. It was in 1947 that mainly on the initiative of the Inspector-General of Forests and of the President, Forest Research Institute, the Government of India decided to open negotiations with the Government of Madras for taking over the College. The Government of India have recognised since many years past that while forests as such are provincial assets and Forest Service is mostly a provincial concern the forests are of more than local or provincial importance in view of the following factors:

(a) The forests protect the catchment areas of our great river systems, on the perennial flow of which depends the agricultural prosperity of the country as a whole.

(b) Forests protect the soil against erosion.

(c) Forests supply the raw products of industries and such industries draw material from more than one province.

In view of these factors it was recognised by the Government of India that Forest Policy was equally and inevitably a central responsibility and that one of the obvious measures of securing co-ordinated forest policies in all the Provinces and States is for the Central Government to control forest education. It was in pursuance of this policy of accepting responsibility for imparting forestry education and to organise and co-ordinate forest research all over India that the Government of India took over the College under their management on lease for a period of 4 years in the first instance commencing from 1—7—'48. Though the Government of India have taken over this College as an experimental measure, for a period of

4 years, the need to keep forest education on a centralised basis is bound to gain increased recognition in future years for the following two reasons:

(a) With the gradual exit of Indian Forest Service officers need will be felt for trained forest officers in all provinces, who can be trusted to maintain the traditions and the high level of efficiency set by the Indian Forest Service officers.

(b) With the merger of the Indian States in the neighbouring provinces and the integration of States into bigger units, the assumption of Zamindari forests and the increased control envisaged by provincial Governments over the private forests, the need will be felt by all Governments to get trained personnel to take over the executive and administrative posts; and the existence of colleges controlled by central authority will ensure that uniform and high standards of professional forest education are maintained in all provinces.

5. The transfer of the College to the control of the Central Government resulted in the following changes:

(i) The strength of the Ranger classes was doubled. All these years upto 30—6—'48 there was only one division each in the Senior and Junior classes with a maximum of 60 students in all. From 1—8—1948 there are two divisions in each of the Ranger classes. The 1948-50 Ranger class consists of two divisions with a total strength of 64 students and the 1949-51 Ranger class is similarly divided into two divisions with 55 students.

(ii) A new Superior Forest Service Course was opened in this College for the first time with effect from 4—10—'48 by the transfer from Dehra Dun of 30 students who were undergoing training there and who had been deputed by the following provinces: (1) Madras (2) Bombay (3) Madhya Pradesh (4) Orissa (5) Baroda, Dangs and Sant - all States since merged with Bombay (6) Andamans (7) Travancore and (8) Mysore. Two more students joined, one each from Central Provinces and Assam, for the second year course (1949-50).

(iii) Educational tours are now undertaken not only in important centres in the Madras Presidency but also in selected places in the adjacent provinces of Bombay, Madhya Pradesh, Orissa and the neighbouring State of Mysore. The Officer class students visit in their two year course select forests in Upper India, particularly Uttar Pradesh, to study the silviculture and management of Sal Forests and *Taungya* methods. They also halt at Dehra Dun for two weeks when they attend a special course of lectures on the utilization subjects by the specialists at Dehra Dun Research Institute.

(iv) The syllabus for studies in the Madras Forest College is now the same as at Dehra Dun except that in view of the climatic and other variations of the country, the students in this College study more of teak, timber (hardwood) and bamboos in their tours while the students at Dehra Dun study more of Sal and other coniferous species.

6. I now desire to place before you, Sir, certain features of College activities which deserve special mention.

(a) **Education:—** The object of the Ranger course is not merely to teach the students the theory and practice of Forestry but to fit them mentally and physically for a hard and often lonely and unhealthy forest life and to train them for the miscellaneous executive and other duties, which await them in their future profession. A Forest Ranger is much more than a practitioner of good forestry; he has to be concurrently a tax collector, an engineer, a policeman a veterinarian, an amatuer doctor, besides supervising fellings and regeneration over an extensive forest estate of some 40 to 120 square miles. There are few comparable posts in the public service which call for the qualities of energy, tact, endurance and physical capacity combined with the professional skill of a varied character in the same high degree as that of a Forest Ranger. The training of a Forest Ranger is thus not simply a matter of lectures and examinations. The course of instructions in the College should mould the students physically and mentally for an interesting but arduous job. It is for this reason that special emphasis is laid in this College on discipline of a semi-military nature and that the students are asked to appear in their smart uniform.

(b) **Physical training** in the mornings and games in the evenings are compulsory for all students. On Saturdays either practical field work at headquarters or excursions to selected places which have a bearing on forestry are arranged.

(c) **Common Mess** in which all students are required to participate is another special feature of this College. The mess is managed and run by the students themselves under the general supervision of the Principal as President, and one of the members of the teaching staff as Vice-President. The common mess system has proved a great success and is popular with all the students.

(d) **Tours** for practical work in selected forests is an integral part of the course and it absorbs nearly half the duration of the course. Coimbatore has within easy reach all types of forests, besides Saw Mills, match and ply-wood factories and other allied forest industries. At Hasanur the students study the silviculture and management of sandalwood forests and the deciduous species, at Topslip and Wynaad they study the evergreen forests, at Nilambur they study teak, at Ootacamund they study eucalyptus and in South Kanara they study the Cashew forests. The Walayar forest, which lies within 17 miles of Coimbatore, is an ideal place for teaching surveying and working plans and Nilambur gives the students a good opportunity to study road and bridge works also. Thus the students acquire valuable knowledge and experience of forest conditions while on tours in these areas.

7. **Activities of the College in 1949-50.** The year 1949-50 forms a land mark in the long history of this College. It was in this year that the College functioned at its maximum expanded capacity. There were six divisions in all as indicated below:

| | | | | |
|---|---|---|---|---|
| Officer class. | 1948–50 | 1 Division | 32 students (Transferred from Dehra Dun from 4—10—'48). | Total 6 divisions. |
| Officer class | 1949–51 | 1 Division | 22 students. (class opened on 1—7—49). | |
| Ranger class. | 1948-50 | 2 divisions. | 65 students. | |
| do | 1949–51 | 2 divisions. | 55 students. | |

The Government of India were kind enough to sanction the gazetted tutorial staff and the non-gazetted establishment necessary to meet the needs of the expanded College. However as a measure of economy the Government decided to keep one post of Instructor vacant throughout the year '49-'50 and also to hold in abeyance the appointments of officers for the following sanctioned posts:

(1) 1 Asst. Lecturer in Engineering. (2) 1 Asst. Entomologist. and (3) 1 Asst. Mycologist.

8. **Audio-visual aid:**— During the year under report a 16 m. m cine sound projector of the B. T. H. make was purchased for use at the College. As many as 30 sound films, kindly loaned by the United States Information Service, Madras, the British Information Service, Madras, Government of India, Ministry of Educational Central film unit, New Delhi and the film library of the Dehra Dun Forest Research Institute and Colleges were exhibited during the year to the students and the lecturing staff The films so exhibited were mostly connected with forestry and allied subjects but in future, however it is proposed to screen films of general interest also. The College, has thus been equipped with a valuable aid to visual education.

9. **Tours.** During the year under review tours as indicated below were undertaken by the various classes:

**Senior Officer Class:**

September & October 1949: Upper India tour - Dehra Dun (Chakrata, Gorakpur and Etawa).
November and December 1949: Working plans Camp at Walayar.
January '50: Nedungayam (Road alignment) Nilambur and the Calicut camps of West Coast.

**Junior Officer Class:**

September & October '49: Hasanur, Bolampatti and Topslip.
February 1950: Parappa and Chedleth camps of West Coast.
April '50: Survey examination at Walayar.
June '50: Field Engineering course at Bangalore.

**Senior Rangers:**

September & October 1949: Field Engineering course at Bangalore, Denkanikota, Bhadravati and North Kanara.
December '49: Road plate work at Walayar.
January & February '50: South Chanda and Balaghat divisions of Madhya Pradesh.
April and May '50: Nilambur and Ootacamund.

**Junior Rangers:**

September and October '49: Bolampatti, Topslip and Hasanur.
January and February '50: Kannoth and Parappa camps of West Coast.
April and May '50: Survey examination at Walayar. Field Engineering course at Bangalore and Denkanikota.

The fact that the College has been transferred to the control of the Government of India has in no way deminished the affection and co-operation shown to it by the forest officers of the Madras Forest Department in the past. Every one of them without exception has been keen and enthusiastic about the visits of the Madras Forest College students and has spared no effort to make the educational tours entirely successful and enjoyable. I take this opportunity to convey our appreciations to the Forest Officers of the Madras Forest Department in whose divisions the classes toured frequently for study as well as for practical survey examination. Our special thanks are due to the Chief Conservator of Forests Madras, Bombay, United Provinces, Central Provinces and Mysore for having approved of the tours in their provinces and rendered all possible aid in that connection. I also take this opportunity to thank the Commandant of the Q. V. O. Sappers and Miners and his staff for kindly undertaking to train the Ranger and Officer class students in field Engineering. We are also grateful to the S. I., M. & S. M. and other Railways for making special arrangements whenever required for the transport of students and their bulky kit. Our thanks are also due to the Regional Transport Officer and the Rationing authorities in Coimbatore, to whose co-operation we mainly owe the success of our local tours.

10. **Games and Sports :** Keen interest and high standard were as usual maintained by students in all departments of game. During this year a change was introduced in regard to the celebration of the Annual College Sports and of the Marathon Race. The old practice of holding them in June each year was given up in view of the very crowded programme of events, examinations etc. in June and also in view of the hot weather conditions. It was therefore decided to celebrate the College Sports each year in November. In accordance with this decision the College Sports *Day* was celebrated on 20—11—49 and the annual Marathon Race was held on 27—11—'49. The students displayed considerable interest in all events and many of the previous records were broken. Special reference should be made to the performance of student Sri M. Suryanarayana who besides annexing Richmond Cup as Champion Athlete, also created a new College record for the Marathon Race.

11. **College Magazine :** The Madras Forest College magazine which was revived last year, was continued in the current year. The magazine is well patronised by all Forest Officers all over the country. I am glad to announce that the Inspector-General of Forests has been kind to congratulate the Board of Editors on the high standard maintained by the magazine.

12. **Gass Forest Museum :** The work of replenishing the Gass Forest Museum is proceeding with the generous co-operation of the Madras Forest Department. I am specially grateful to the Chief Conservator of Forests, Madras and the Government of Madras for the following free gifts they have made to the Museum:

(a) One pair of elephant tusks weighing 6398 tolas, estimated value Rs. 1722—8—0. and

(b) One sandalwood tree weighing 25 qrs. 17 lbs., estimated value Rs. 1083—9—2.

Many other exhibtits and timber panels have been received from the local forest officers, to whom oûr grateful thanks are due.

13. **Works:** During the year under review the following works were undertaken:

(a) Repairs to the college main building.

(b) Conversion of the shed near the Gass Forest Museum into an Instructors' room.

(c) Cleaning, deepening and boring the Thadagam road well and fitting an electric pump motor.

The last mentioned item of work needs special mention in view of the fact that on account of the rapid increase in the population in Coimbatore town and the failure of monsoon for the last three years the Coimbatore Municipality has more than once expressed its inability to provide Siruvani water to the College. To meet the threatened breakdown in water supply, the Government of India were generous enough to sanction an estimate for cleaning, deepening and boring the College well at Thadagam road and to install an electric pump motor. I am glad to announce that we have tapped a good spring and now there is copious water in the well, sufficient to meet the needs of the College.

14. **Some recent retrenchment measures:** Before I proceed to announce the results of the examinations it is necessary to refer to the decision of the Government of India to close down the Officer's section and the Research wing in the College. Although the Madras Forest College functioned all these years as a Ranger College, the Government of India's decision to open an Officer's course from October '48 and also to open a Research Wing with specialist officers, was received by all with much hope and enthusiasm. Of the three specialist posts sanctioned for the Research Wing (Assistant Soil Scientist, Asst. Entomologist, and Asst. Mycologist) only one appointment was approved, viz, that of the Assistant Soil Scientist and the officer selected - Dr. C. R. Harihara Ayyar - joined duty on 5—8—49. It was unfortunate that the compelling need for economy has made it necessary for the higher authorities to close down the Research Wing from 1—3—50. Accordingly the services of

Dr. C. R. Harihara Ayyar had to be terminated on 28-2-1950'. During the period he was in employ in this College, Dr. C. R. Harihara Ayyar endeared himself to one and all.

It is also regrettable that need for economy has been responsible for many of the Provinces and States not agreeing to depute for training for the Superior Service Officer course up to their full preliminary forecast. In view of the fall in the number of students the Government of India have also decided not to have an Officer class in the Madras Forest College in 1950-'52. The existing 1949-'51 Officer class will be the last batch to be trained so far as it can be anticipated at present. Due to the above decision the services of Sardar Sher Singh, a retired and re-employed officer, who was one of the lecturers in charge of the Officer class had to be terminated from 1—4—'50. We are sorry to lose the services of Sri Sher Singh, who by his dignified bearing and commanding personality endeared himself to one and all.

For the same reasons stated in respect of the Officer course, the strength of the Ranger Class to be formed in July' 50 will be only 32 and thus there will be only one division in the Junior Ranger class (1950-'52). Consequently two more officers - Sri K. Andiappan and Sri V. D. Mehendale will be leaving the College on 30-6—'50 and join their respective Governments. I take this opportunity to express my appreciation of the very good work done by both these officers during their tenure of appointment in this College from July 1948.

It is to be hopped that the decision of the Government of India to close the Officer Wing and the Research Wing in this College is purely temporary and that within the next few years the above activities will be restored and that the Madras Forest College will function as a part of the Dehra Dun organisation catering to the needs of Peninsular India.

14. **Examination Results**:— I now turn to the results of 1948-'50 Officer and Ranger courses. 32 students appeared for the 1948-'50 Officer course examination and I am glad to say that all came out successful. Their examination ended in march '50, but a special convocation could not be arranged towards the end of March

'50 as the Inspector General of Forests, and the President, Forest Research Institutue and Colleges had to attend the Convocation at Dehra Dun which was held on 2—4—'50. It was therefore decided to issue provisional certificates of pass to the students at the end of the course and to award the diplomas in this regular convocation in absentia.

Sixty four students appeared for the examinations in respect of 1948 '50 Ranger Course. Of these I am glad to report that one has been awarded the Honours Certificate with distinction, and the rest of the students the Higher Standard Certificate.

15. I take this opportunity to thank the College staff for the hard work and enthusiam they have all shown during the year, in teaching and extra-curricular activities both at headquarters and in camps.

16. **Conclusion:**— Before I close, I would address the outgoing students. Gentlemen, as a result of the unostentatious work of the Forest Department for the past 70 years, there are very welcome signs of an increase in forest consciousness amongst at least the educated people in India. Measures like the Madras Private Forests Preservation Act of 1946 show that enlightened public opinion is also in support of the crying need for protecting the country's private forests from the wholly destructive usage, which has been customary in most of such forests hitherto. It will be one of your most important duties to carry this enlightenment to the common man in the village by first securing his confidence by seeking to reduce his burden and then giving him full particulars of the importance and valuable role a properly stocked and protected forest can play in the development of agriculture, in the prevention of soil erosion, in the regulation of floods, in the maintenance and amelioration of a high water table and in the stabilisation of industries.

The recently started Tree Planting festival or '*Vana Mahotsava*' will afford you an excellent annual occasion to speak on the benefit of forest conservation and to demonstrate your laboriously acquired knowledge of the best method of tree culture and after care. If every one who has passed through the portals of our Forest College made it

a point of honour to see that this week is properly observed, even in only 7 villages in his range, annually and that villagers were persuaded not only to plant trees but look after them through their infant and vulnerable stages for 1 or 2 years, we would earn the gratitude of the villager and the nation than which I cannot imagine a greater reward. In conclusion, I would advise you to carry out all your professional duties with promptness and efficiency, to spend the public funds allotted for works with even more care and circumspection than you would show in spending your own money, to demonstrate in your lives that sterling honesty and affection for your fellow human-beings, irrespective of caste, creed or community which was such a characteristic of the Father of our Nation and without which our newly won freedom will only be dissipated in chaos. Remember that if we serve our nation faithfully, it is a tribute to our loyalty and to our concept of service.

I bid you farewell and God speed and wish you all success and happiness in the truely wonderful career you are now entering upon.

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## Madras Forest College, Coimbatore.

*The results of Superior Forest Service Course (1948—'50) have already appeared in the April '50 issue of this magazine. (Ed)*

**1948—'50 Ranger Course—Final Results.**

*In order of merit.*

HONOURS.

1. Rangadar Misra (Orissa)

HIGHER STANDARD.

2. G. S. Rathore (Madhya Pradesh)
3. K. V. Subramaniam (Madras)
4. Pyara Singh Chadha (Madhya Pradesh)
5. P. S. Nagoor Meeran Rowther (United States of Cochin & Travancore)

33. A. K. Narayanan Nair (Madras)
34. C. Bhaskara Rao (Madras)
35. P. M. Thimmaiya (Andamans)
36. C. V. Kothandaraman (Madras)
37. Bhubananda Sahu (Orissa)
38. F. L. M. Perera (Ceylon)

6. Haripadu Sahu (Orissa)
7. S. C. Tiwari (Madhya Pradesh)
8. Anil Kumar Ghosh (Orissa)
9. R. N. Teckchandani (Bombay)
10. D. Rajarathnam (Madras)
11. L. D'Mello (Coorg)
12. M. A. Sabnis (Bombay)
13. Y. S. Kadachamani (Madras)
14. K. N. Thakekar (Bombay)
15. M. Venkata Reddy (Madras)
16. R. N. Bhadadwaj (Madhya Pradesh)
17. C. Venugopal (Madras)
18. Ananta Tripathy (Orissa)
19. Hanuman Singh Parihar (Madhya Pradesh)
20. Ganashyam Naik (Orissa)
21. P. M. Abraham (United State of Cochin & Travancore)
22. D. P. Chaudary (Madras)
23. P. G. Joshipura (Junagadh)
24. W. E. S. Goonawardena (Ceylon)
25. V. R. Krishnan Nair (United State of Travancore & Cochin)
26. E. C. De. Z. Weerawardena (Ceylon)
27. D. J. H. P. Senanayake (Ceylon)
28. Radhakanta Dikshit (Orissa)
29. N. Ananta Narayanan (Madras)
30. K. Dharmapalan (United State of Cochin & Travancore)
31. Kishore Chandra Das (Orissa)
32. L. Kurian Akkara (United State of Cochin & Travancore)
39. T. Krishnankutty Menon (United State of Cochin & Travancore)
40. P. Ramiah (Madras)
41. R D Baldania (Junagadh)
42. Durga Prasanna Ghose (Orissa)
43. Dwarkanath Behera (Orissa)
44. P. H. Chaudhari (Bombay)
45. V. S Holihosur (Bombay)
46. Gulabrai B. Joshi (Junagadh)
47. D. V. Badnikar (Bombay)
48. C. N. Khot (Bombay)
49. K. S. Dorai Raj (Madras)
50. M. Gopalakrishniah (Madras)
51. D. Ramadas (Orissa)
52. R. K. Desai (Bombay)
53. S. Ramakrishna Rao (Madhya Pradesh)
54. A. M. Pawde (Madhya Pradesh)
55. Surmukh Singh Taunk (Madhya Pradesh)
56 G. Hariprasad (Madras)
57. Joseph St. Anne M. A. Lobo (Bombay)
58. P. Satyanarayana Rao (Orissa)
59. V. K. Ramachandran (United State of Cochin & Travancore)
60 J. P. Jonoria (Madhya Pradesh)
61. P. Narasayya (Madras)
62. P. G. Tole (Madhya Pardesh)
63. K. Y. Sathe (Madhya Pradesh)
64. B. A. Vadgama (Junagadh)

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# Madras Forest College, Coimbatore.

## List of Prize Winners—June 1950.

### 1948—'50 Rangers course.

| S. No. | Name of prize. | Name of recipient. |
|---|---|---|
| 1. | Honours Medal. Awarded by Government to the student who passes out with the highest total number of marks. | RANGADAR MISRA (Orissa) |
| 2. | Silver Medal I, awarded by Government to the best student in Forest Utilization. | G. S. RATHORE (Madhya Pradesh) |
| 3. | Silver Medal II, awarded by Government to the best student in Botany. | S. C. TIWARI (Madhya Pradesh) |
| 4. | Silver Medal III, awarded by Government to the best student in Range Administration. | RANGADAR MISRA (Orissa) |
| 5. | The Campbell Walker Prize for the best student in Forestry. | RANGADAR MISRA (Orissa) |
| 6. | The Brasier Prize for the student who is likely to make the best outdoor Ranger. | PYARA SINGH CHADHA (Madhya Pradesh) |
| 7. | The Lodge Prize, for the best student in Forest Engineering. | M. VENKATA REDDI (Madras) |
| 8. | Special Prize, awarded by Sri E. A. Lasrado, I. F. S. to the best Student in Forest Management in the final examination held in June '50. | P. S. N. ROWTHER (United State of Travancore & Cochin) |

| S. No. | Name of prize. | Name of recipient. |
|---|---|---|
| | **Sports & Games.** | |
| 1. | The Pentland Shield for the best all-round sportsman in the College for 1949-'50. | M. SURYANARAYANA, Junior 'B' Division. |
| 2. | Risaldar Amir Mohamad Khan Inter-divisional Marathon cup. | Senior Ranger 'B' Dn. Leader: R. N. Bharadwaj. |
| 3. | The Mannarghat Moopil Nair's prize for Marathon (cross country race) run over a distance of 7 miles. | |
| | First | M. SURYANARAYANA, Ranger Junior 'B' Dn. |
| | Second | R. N. BHARADWAJ, Ranger Senior 'B' Dn. |
| | Third | Y. M. RANGA RAO, Ranger Junior 'B' Dn. |
| 4. | Mumtaz Challenge Cup for the winners of Inter-divisional Cricket. | Senior Ranger 'B' Dn. Capt.: W. C. Weerawardhana. |
| 5. | The Cowley-Brown cup for the winners of Inter-divisional Hockey. | Junior Ranger 'B' Dn. Capt.: G. Shanker Rao. |
| 6. | The Fischer Cup for Tennis Singles:— | |
| | (a) Winner | C. DISSANAYAKE, Ranger Junior 'A' Dn. |
| | (b) Runner up | Y. M. RANGA RAO, Ranger Junior 'B' Dn. |

| S. No. | Name of prize. | Name of recipient. |
|---|---|---|
| 7. | The Veerappam Bhoi cup for the winners of Inter-divisional Football. | Ranger Senior 'A' Dn. Capt. : P. M. Abraham. |
| 8. | The Uberoi Cup for the winners of Inter-divisional volley-ball. | Ranger Senior 'A' Dn. Capt. : Y. S. Kadakshamani. |
| 9. | Swimming race: | |
| | 1. Senior Officer's Class. | S. S. PANIGRAHI. |
| | 2. Senior Ranger 'A' Dn. | H. SENANAYAKE. |
| | 3. Senior Ranger 'B' Dn. | C. N. KHOT. |

# His Excellency's address at the Convocation of the Forest College, Coimbatore, on the 25th June 1950.

*The Principal, M. F. C., then requested H. E. the Governor of Madras to kindly distribute the Diplomas, Certificates and Prizes to the outgoing students of the Officer's and Ranger's classes.*

*After the Diplomas, Certificates & prizes had been distributed, His Excellency addressed the convocation.*

Mr. Principal and my friends,

Last year to my great regret, I was obliged by other engagements to decline the kind invitation of the Government of India to address the Convocation of the Madras Forest College. It is, therefore, with particular pleasure that I have accepted the renewed invitation of my friend the Hon'ble Minister for Food and Agriculture, to deliver the Convocation address this year.

2. In all progressive countries, forestry is a vital branch of land management. Forests make an important contribution to the welfare of the people, both directly and indirectly. They are an indispensable

compliment to agriculture, not only by providing the farmer with timber, green leaves for manure and fodder, fuel for his cooking fires, and grazing for his cattle, but also by protecting his lands from floods and erosion. Forests are the source of raw materials for numerous industries consuming forest products such as paper, ply-wood, match, tanning etc. Forests are, in short, one of the most valuable natural resources of a country; unlike minerals, they are a renewable resource, calling for little more than wisdom and moderation in use and treatment.

3. This country has had a tradition and history closely bound up with our forests. Our ancient epics are full of stories of sages and heroes and their wanderings in the great forests of those days. A feeling of regard for forests and for trees, bordering sometimes on actual worship, as in the case of our sacred trees, has existed for a long time in India. But the course of history, especially in these last few centuries, has resulted in the breaking up of our great tracts of woodland, following the indiscriminate extension of cultivation. It was only during the last 25 years of the 19th century that an active programme of forest preservation was undertaken and the Indian and Madras Forest Acts were passed during that period.

4. The total area of land under forest is about 20% of the total area of our country, and of this about two-thirds is Government forest, the balance of one-third being private forest. Private forests have been heavily overworked during the last war and later, and they are now in many cases a wasting asset. When it is remembered also that Government forests include much inaccessible forest in remote areas and high elevations, as well as scrub forest of low productivity, it will be appreciated that although the nominal percentage of the forest area in the country may appear satisfactory, the actual area of productive forests in the country is much below requirements. Experts tell us that public welfare requires that about 25% of a country should be under forest. We fall short of this figure; and careful study of the map shows that the existing forests are very unevenly distributed in many States.

5. The importance of forests is especially great in a predominantly agricultural country like ours, where the scope for expansion of industries and communications is so vast and the need for

raising the standard of living of the people so pressing. A measure of the leeway to be made up in these respects, is provided by the fact that the total estimated consumption of wood in India is said to be about 1 cubic foot per head, while in the United States of America it is about 90 cubic feet and in Europe about 30 cubic feet. It is not a mere accident that the average wood consumption of all progressive countries in Europe and America is much higher than that of Asiatic countires. Nor can we place the responsibility for this deplorable state of affairs on natural conditions. For, except for certain tracts in the north-west, India generally enjoys what is known as a 'forest climate' and can grow timber of good quality over extensive areas.

6. It is not as widely recognised as it should be, that the devastation of forests in our agricultural regions is the direct cause of the low yields of food crops. This is a point I would like to stress with all exphasis; for, the interdependence of our agricultural economy and our forest wealth is a factor which not only the people but even our Governments have often lost sight of. This factor has not only been too often ignored, in many instances, as in our Grow-more-food drive, we have sacrificed our forest wealth in the mistaken belief that we are increasing our agricultural productivity. The conception of clearing the jungle in order to bring more and more land under cultivation can be carried too far and often it has been carried too far. We have not stopped with merely clearing the jungle; we have sacrificed our trees and our pasture land without discrimination. The result of this short sighted policy is now recoiling against our cherished purpose of growing more food. Owing to the acute shortage of firewood, the cowdung manure, which should go to fertilize our starved fields, is burnt in our hearths and literally goes up in smoke. The indiscrimate clearance of forests has resulted in the forces of erosion, which wash away the fertile top soil and have generally brought about increasingly arid conditions. These forces act so slowly and so subtly that the average farmer does not recognise the source of the evil and accepts such conditions as a part of the order of nature.

7. The disastrous consequences of such misguided disturbance of the natural vegetation, especially on hill slopes, can be seen at our door-step. I refer to the case of the Nilgiris. I have been a constant visitor to these hills in the old days and I was shocked to see the

denudation caused in the last few years. Extensive potato and vegetable cultivation on steep slopes without proper precautions such as contour-bunding, and widespread clearance of trees which the wisdom of past generations had planted on the Nilgiris, have sadly impaired the loveliness of its hill stations. But far worse, they have resulted in erosion on a very large scale, in aridity and heavy loss of the irreplaceable fertile top soil.

8. I have painted a rather gloomy picture, but the remedies are simple enough if only we make up our minds to apply them. Firstly, we must restore our lost reverence for trees. It is not always possible to grow forests everywhere, but there is nothing to prevent our growing trees in every available bit of spare land, along roads, in railway lands, canal banks, village wastes, bunds of fields, bungalow compounds, around playing fields; in short on any and every piece of bare land which is not required for some other purpose. Let us devote ourselves annually to tree planting as almost to a religious rite. Indeed it is essentially an act of piety, for a man who plants a tree no matter where, puts his fellow men under a lasting obligation. The Government of India have fixed the first week of July each year as a "*Vana Mahotsava*". I would appeal most earnestly to our people to carry out this task with zeal and devotion, for, if they do so the face of our land can be altered in one generation and we will, be going a long way to usher in the era of prosperity and wealth.

9. Secondly, let us clear our minds of some dangerous delusions. The first of these delusions is that our forests contain an inexhaustible store of timber, firewood and other forest products. Though we have had bitter experiences of shortages, there are still people who believe that the more we take out of our forests the more there would still be in them. The unpleasant fact is that our existing forests can barely supply the requirements of the country even on the present low level of consumption. Any improvement in the supply conditions can only be brought about by the intensive application of science to forest management and forest utilization. Waste in the forest must be reduced and communications extended and improved. We must also face the need for a planned extension of our forest area under a properly balanced scheme of land use. We have also to revise our ideas as to the rights of private owners of forests to do

what they like with them. It is a matter for congratulation that the Madras Government, as well as several other State Governments, have enacted, or are enacting, legislation concerning the control of private forests.

10. The second delusion, which is generally harboured, is that the extension of cultivation at the expense of forest or woodland or pasture, without regard to conditions, is, of its very fact, a good thing. This is a legacy from old days and, as I have already remarked, it has received an unhealthy impetus through a misunderstanding of our Grow-more-food campaign. No one will dispute the compelling need for increasing food production. But too often we have failed to realise a true discrimination in our enthusiasm. The extension of cultivation to marginal and submarginal lands, entailing sacrifice of wood or grass production, would be a calamity. We are already short of timber and firewood. Reduction of area under forest would merely increase the shortage which could only be made good by imports and would be a retrograde move. And in the long run, as I have stated, we would be defeating our very object of growing more food. Soil erosion and aridity, as I have seen in the Nilgiris, ultimately result and destroy not only the food we are growing, but also the soil and its productive capacity for years to come.

11. The third delusion, which is widely entertained, is the notion that forests grow by themselves and that a Forest Department with all its paraphernalia of professional staff, forest laws, techniques, forest research and forest protection is an unnecessary infliction and a needless invasion of the rights of the people. Not only do forests need close management, but the management has to be in the hands of highly trained experts capable of taking long range views. For, forestry is a long term enterprise in which mistakes cannot be readily detected or speedily corrected. While it is true that forests are a product of natural growth, scientific forestry consists in a calculated interference with natural processes, with a view to growing trees of the right species and of the right size as rapidly as possible. The aim of scientific forestry is to produce the maximum sustained yield for any given forest; and this is not as simple as it may seem, for the determination of the yield of a forest is a difficult and complicated matter. Regeneration of felled forests, whether naturally or

artificially, at economic cost is again a highly skilled job. The protection of forests, especially from abuse by man, is no easy task, for forestry is, in this aspect, essentially a matter of restricting the rights of the local population in the common interest and for future generations. In the advanced countries of Europe and America, the profession of forestry is held in high regard as a key national service; and the intensity of management is so great that the area under the management of a professional forester is about a quarter of that in India. If we are to preserve this source of our national wealth - this is another point that I would strongly urge - our Governments should pay the fullest attention to a scientific and properly planned campaign of development of our Forest Department and their work, both on the research as well as administrative side.

12. The report which the Principal has just presented to us, shows us how varied and arduous is the training which Forest Rangers and Forest Officers have to undergo. It is a happy circumstance that in this important field of forestry, the Government of India have undertaken the responsibility for imparting professional education for the whole country. I note with regret that as a result of reduced recruitment caused by the present financial stringency, it has been found necessary to close down the Officer's training course at Coimbatore. It is also unfortunate that for similar reasons the scheme of installing research sections at this College has to be postponed. I trust, nay I should even urge, these measures of retrenchment should come to an end as speedily as possible. For, on this subject of forests we cannot afford to retrench to any appreciable degree without detriment to our national wealth.

13. Before I conclude, I wish to congratulate the Principal and his staff on a most successful year of work. To the students who are going out today to take up their important posts in their States, I wish all good fortune. The forests of their States are committed to their care and I am sure they will do their jobs well if they remain true to the traditions of this College. I am sure they will carry out their tasks with enthusiasm and whole-heartedness, for so much of the future prosperity of our country depends on their efforts.

# Message from the Hon'ble Minister for Forests, Food and Agriculture.

*After the conclusion of H. E. the Governor's Address, Sri M. D. Chaturvedi, I. F. S., Inspector-General of Forests, Govt. of India, read out the message of Hon'ble. Sri. K. M. Munshi, Minister for Forests, Food, and Agriculture Govt. of India.*

Much as I would have liked to be present in person on the occasion of the Convocation of the Madras Forest College, Coimbatore, I have been prevented from doing so by pressure of work, not the least important of which is that connected with the organization and the celebration of '*Vana mahaotsava*'. The cause of forestry is, thus, uppermost in my mind The importance of maintaining a tree-cover on our land which is scorched by a tropical sun and parched by hot and dry winds can scarcely by over-emphasied. I take this opportunity of felicitating you all on your successful career at the college and sincerely trust that on return to your respective States you will devote yourselves to the difficult task ahead of us all and guard zealously and cherish the great heritage we have in our forests. I would also like to emphasize that it is not enough to confine your activities to the forests entrusted to your care. You should, in addition, place your technical knowledge at the disposal of village folks, of town dwellers and indeed of all lovers of trees, enthusing them to recapture once more the sylvan splendour of our land, which has been immortalized in Vedic hymns and puranic literature.

I should also like to convey my feelings of gratitude to my esteemed friend, the Maharaja of Bhavnagar and Governor of Madras for the trouble His Excellency has taken in gracing the occasion with his presence and addressing the convocation.

# Speech by Sri M. D. Chaturvedi, I. F. S.

## Inspector-General of Forests, Govt. of India.

*Lastly the Inspector-General of Forests thanked H. E the Governor, Hon'ble Sri Sanjeeva Reddi, Minister for Forests, Govt. of Madras, and others present, and addressed the outgoing students.*

Your Excellency, Sri Sanjeeva Reddi, Ladies & Gentlemen,

I deem it a great privilege to have this opportunity to express my feelings of gratitude for the trouble you have taken in gracing this occasion. We are specially indebted to His Excellency for his inspiring and thought-provoking address. In a country like ours where the bulk of the population is dependent upon agriculture, the role of forests in the conservation of moisture, prevention of erosion protection against desicating winds and the part they play in our rural economy in general cannot be over-stressed.

Might I crave your indulgence, sir, to say a few words by way of advice to the outgoing Rangers. The forests entrusted to your care constitute a sacred trust which must be managed not only in the immediate interest of the existing generation but also of the generations to come. Let it not be said of us that we allowed the claims of unborn generations to this bounteous gift of nature to go by default. Forests must be so managed as to secure their beneficence in perpetuity; and on no account should we permit our vision to be clogged by the immediate needs of the populace, however clamorous its demands may be.

I have no desire to make this platform a pulpit. I have no intention of following the beaten path of offering you advice, than which nothing is easier to give. Instead, I would like to sound a note of warning and brand into you a lesson which will stand you in good stead throughout your career. Wherever I have gone during my recent tours, I have been struck by the laxity of discipline througout the rank and file of of Forest Departments. The malaise is discernible in the manner in which uniforms are worn, in the mode of address and in the

very gait of officers. The dawn of independence seems to have loosened the cementing bonds which held us together as a Department. I would like you to remember that for those of us who have chosen to serve our country through a department, there is no other freedom except the freedom of doing what we are told to do. We have inherited a glorious and an efficient machine from our former masters. It works like a clock in which one wheel is cogged to another. It recognises no short circuiting, no by-passing. True, we have broken down the chains of slavery but that does not imply that the chains which gear us together in a departmental machine should also go. We should learn to look upon our leaders, the men at the helm of affairs, with pride and respect. Give them greater allegiance and slave for them even more and more willingly than we did for our foreign masters. No servant of the realm need look beyond or owe loyalty to anyone except his immediate boss I can foresee some of you being attached to officers who have risen from the ranks by dint of hard work in the practical field of forestry. Do not let your false notions of your university education and the training you have had at this College stand in the way of your giving unstinted loyalty to your immediate officer. Your immediate boss is your immediate God. He can make or mar your entire career. I have seen many a young officer ruined by their recalcitrant attitude towards his immediate officer. The way to make good to rise, to get speedy promotion lies through the gadget of the immediate boss. The tendency to enlist the sympathy of outsiders, however distinguished, the temptation to pull political strings, should be curbed in the interest of the Department as a whole. You should learn to suffer patiently for a greater cause than your own petty interests and to live for the glorious traditions of the Department you have the honour to serve.

I am not unaware of having struck rather an unpleasant note this evening. Should you, however, remember my words and translate them into actual practice in your career, you will bless me at the time of your first promotion.

I congratulate you all for the award of the certificates today by His Excellency the Governor. With you go my blessings and an earnest prayer that you may be kept on the path of rectitude.

In the end I would like to felicitate your Principal and the College staff not only in their efforts in organising this Convocation, but also in maintaining the high standard of instruction imparted at this College.

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*The gathering was then entertained with an 'austerity' tea arranged in the spacious Engineering Hall and the adjoining varandahs of the College. The pleasant function ended at 7-30 P. M. (Ed.)*

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# Wattle Cultivation in the Nilgiris and The Tanning Industry*.

*Paper read at the centinary celebrations of the Govt. Botanical Gardans, Ootacamund in May 1950 (Ed.)*

*By* **K. N. R. Nair**, B. A., B. Sc., (Hons) (Edin.)
*Provincial Silviculturist, Madras, Ootacamund.*

1 According to the recent estimates, there are 639 million heads of cattle in the world, out of which a little more than one-third are in India. Although we are far behind countries like Holland, Switzerland, the United States of America and Australia, in the production of milk and other diary products, we are in the forefront as regards the manufacture of hides and skins; and this industry though not as well established as it ought to be, has recently assumed considerable importance not only as one employing more than a lakh of people but also as a major dollar earning item of our export trade. As the standard of living of the people goes on increasing, the internal consumption of processed leather is also going up and it is not an exaggeration to say that leather in some form has become an inevitable necessity of present day life. Side by side with the great cattle wealth, our forests contain several valuable tanning materials such as the myrabolams, the avaram bark (*Cassia auriculata*), Cassia bark (*Cassia Fistula*), the divi-divi pods (*Caesalpinia dignya* and *Caesalpinia coriaria*) and a number of less important plants products; and from very ancient times India had earned a name in Europe and Middle East for exceptionally fine leather and leather products. Nevertheless, from the commercial statistics for 1939, it can be seen that during the decade beginning from 1930, India was importing processed leather and leather goods worth three crores of rupees a year. In other words, though we had an abundance of all the raw materials and the technical skill to process them, we were exporting our products in a crude form and importing them as finished goods from foreign countries thereby draining away the wealth of the country. The starting of modern and well-equipped tanneries at Cawnpore, Batanagar, Madras

*. This article has also appeared in 'The Hindu' of June 11th, 1950, with some modifications. (Ed.)

and other centres, has appreciably changed the above state of affairs, but as a result of the abnormal increase in demand for processed leather during the war period and the years that followed, the position is far from satisfactory and India is still importing leather and leather goods from foreign countries. With the dawn of Independence, we are facing several problems and the economic rehabilitation of the country. within the shortest possible time, is undoubtedly the most important, Proper utilization of our raw materials and increasing the production of consumer goods have been suggested by our national leaders and economists and it is a very healthy sign that the several States of the Union are vying with each other in finding out ways and means to achieve the above objects.

2. Like many others, the tanning industry also has to overcome several obstacles before it is scientifically and properly established. Ever since its beginning, the timely and steady supplies of the necessary raw products particularly the tanning materials, have been bottlenecks and it is time that concerted measures are taken to overcome this. It is true that we have several tanning materials, but the supply position depending mainly on seasonal and climatic variation, has never been satisfastory. Besides, the tanning content of our indigenous materials varied from 10 to 18 per cent and compared to other imported products, such as Quebracho and Sumach, it was low and consequently uneconomical to use. The discovery of chrome tannins early in the present century cleared several of the above obstacles and gave a great fillip to the expansion of the tanning industry. But it was soon realised that while chrome tannins had several advantages, they had also certain defects, the chief amongst them being that they did not give the same finish and durability to the leather as vegetable tannins. It was at this stage that South Africa first mareketted the wattle bark as a tanning material and its advantages were so many that within the course of the ten years it became very popular. South Africa carefully studied the conditions and requirements of the markets in India and paid particular attention in catering to the needs of the several factories started all over the country. Supplies were steady and timely and what was more, the wattle bark was put on the market both as powder and extract, which were more convenient and ready for use. A perusal of the commercial statistics between

the years 1923 to 1939, will show the meteoric progress made by South Africa in the wattle trade. In 1923, the total quantity of wattle bark imported into the Madras Presidency was 200 tons valued at Rs. 13,100; by 1933, the quantity rose up to 14,000 tons valued at Rs. 13,30,000, and in 1939, it was 18,000 tons valued at Rs. 17,14,000. This did not, of course, include the quantity imported by other Provinces such as Bombay or Bengal where the tanning industry was equally, if not better, established than in Madras. It has been estimated at the Forest Research Institute, Dehra Dun, that the minimum annual requirement of wattle bark in India between the years 1936 to 1939, was one lakh tons, and valued at the pre-war price of Rs. 95/- to Rs. 100/- per ton, one finds that in this item alone India's wealth was being drained at the rate of almost one crore of rupees a year. The tanning industry in India has expanded very considerably since 1939, and according to the recent estimates made at the Forest Research Institute, the present day annual requirement of wattle bark is four to five lakhs of tons. The breaking off of trade relations with South Africa has resulted in an abnormal increase in the price of wattle bark and towards the end of 1949 it rose up to Rs. 550/- per ton. But taking it at the 1939 price level of Rs. 100/- per ton, the value of our annual requirement of wattle bark comes up to nearly four or five crores of rupees. This huge sum should normally have, gone to South Africa! To this if one adds the amount spent in importing finished leather and leather goods from foreign countries, it becomes clear why inspite of all our natural advantages and great potential wealth, we are still a poor and backward nation.

3. Under the trade name "wattle" are included four different plant species: the black wattle *(Acacia mollissima)*, the green wattle *(Acacia decurrens)*, silver wattle *(Acacia dealbata)* and the golden wattle (*Acacia pycnantha*). They are all indigenous to Australia, but it was in South Africa that they realised their commercial importance. Though plantations were started only fifty years ago today it covers more than a million acres of land and brings in a very considerable income to that country. Silver wattle *(Acacia dealbata)* was introduced into the Nilgiris along with *Eucalyptus* towards the end of the last century, and it has almost run wild over large areas. Due to low tannin content=9 to 10 per cent as against

32 to 38 per cent in *Acacia mollissima* and *Acacia decurrens*, it served only as cheap source of firewood. Early in the present century *Acacia mollissima*, and a few years later *Acacia decurrens* were introduced into South India, first in the Prospect Estate at Naduvattam and then at Kodaikanal and the Kannan Devan Hills in Travancore as shade trees in tea estates. Their importance as valuable tanning materials was however realised only in the late thirties, when the South African bark had gained great popularity and its demand was steadily increasing. Even then, no serious attempts were made either by the Government or the public to raise large scale plantations and, inspite of the very great demand and attractive price, the total area under wattle in the Nilgiris at present is less than 2000 acres with an annual production of about 800 to 1000 tons of bark.

4. By 1934, the Forest Department, realising the economic importance of the two species as a sources of valuable tanning material and cheap firewood, started systematic research to study their silvicultural characteristics and requirements. The silvicultural branch of the Forest Department has, during the course of the last fifteen years, conducted several experiments collecting valuable data and it can confidently be stated that the experimental stage is over and large scale plantations can now be started. In the Nilgiris, it is seen that the two species can thrive well above an elevation of 5000′ with a rainfall of not less than 40″ per annum, and soil fairly deep and alluvial. Judged by the above criteria, there are some 10,000 acres of land, excluding the Wanlock Down, eminently suited for the cultivation of wattle, and worked on a ten years rotation we can produce 4 to 5 thousand tons of bark per annum. Along with this, if instead of the common *Grevillea robusta* (silver oak) wattle is used as the shade tree in the tea estates, the quantity of bark produced can be increased by another 25 to 30 per cent. Considering the present demand, the production of 7500 tons of wattle barks per annum may be quite inadequate, but in terms of money we will be saving an appreciable amount of capital sorely needed for various nation building puposes. Experiments in raising wattle along with potatoes have proved very successful and this may well be taken advantage of to solve the present food problem. Reckoning the

price of wattle bark at Rs. 100/- per ton and the average yield at 5 tons per acre in ten years, it is seen that for an investment of Rs. 40 – 50 the planter may hope to gain Rs. 500/- per acre at the end of ten years. If the wattle planting is done in conjection with raising potatoes, even this negligible expenditure can be saved. In South Africa the average yield is 16 tons of bark per acre on a rotation of 12 years; and experiments have already been started to find out how the local yield could be increased. The yield of firewood per acre in the Nilgiris varies from 40 to 50 tons and hitherto it used to be sold as cheap fuel. But the recent researchs at the Forest Research Institute have shown that one ton of wattle wood gives 17 cwt. of pulp and mixed with 50% of bamboo pulp, it can be made into excellent paper. In a recent speech, Hon. Sri K. Madhava Menon, Education Minister, said that in this province alone there are forty-six lakhs of illiterates between the ages of 12 to 45 and the Government are proposing to open 400 schools this year. It is an undoubted fact that the education of the masses is an assential pre-requisite to real progress; and to achieve this, the production of paper in India, which at present is very low, must increase appreciably. In short, wattle can solve two of our most vital problems by providing the necessary raw materials for two important industries.

5. The Forest Department has already started large scale planting and two schemes extending over an area of 6,000 acres in the Nilgiris and about 15,000 acres in the Upper Palnis, on a 10 year rotation have been sanctioned by the Government. With the active and willing co-operation of the public, the Government will be able to do much more and therein lies the short cut to prosperity and progress.

# "Tree Stumping" on Chamundi Hill.

**(A method of establishing tree growth on dry, rocky, hill slopes)**

*Paper read at the International (Far East and the Pacific) Conference held in Mysore, March-April 1949.* (Ed.)

*By* **Mr. Mohd Ahmed.** *D. F. O., Mysore.*

The afforestation work we see on the Chamundi Hill* has for its main object the aesthatic improvement of the hill. The main picture of the hill side from a distance is that formed by the bare, huge granite boulders, tree growth being sparse, meagre and almost invisible during the leafless summer. It is with a view to gradually remedy this defect in the minimum time practicable, that the method known locally as "Tree stumping" was developed and employed with success.

Before the introduction of tree stumping practice, various methods were tried to induce tree growth on the hill with different but generally meagre degrees of success. Among them are:— 1. Planting entire in pits, named or basketted plants. 2. Sowing in raised beds (patches of loosened earth 4′ square with the soil worked to a depth of about 9 inches and stimulated by a light burn) 3. Sowing on trench mounds, the trenches being 6 or 12 feet long by $1\frac{1}{2}'$x$1\frac{1}{2}'$ with the excavated earth bunded on the lower slope.

Owing to the adverse natural conditions prevailing on the hill (as meagre and poor soil, inadequate rainfall, heavy grazing and high westerly winds) the earlier efforts at afforestation produced no rapid or marked improvement in the tree growth and the hill sides looked as bare as ever. Early in 1939, the late Maharaja of Mysore expressed that any short-cut method of establishing tree growth which would be visible from a distance and help to screen off the unsightly rocks should be welcome on the hill. The District Forest officer at

* Situation of the Hill 12° 76′ north latitude; Rainfall 25 inches; altitude 3500 feet.

the time, Sri. N. G. Venkata Rao, then thought of planting up the hill sides with small trees of various species uprooted from the neighbouring forest areas, the size of the trees varying from 9″ to 18″ in girth and 20′ to 30′ in height, after "stumping" them. The tree stumps were prepared in the following manner :—

The natural forest trees were up-rooted by severing the roots at lengths of 1½′ from the base of the bole; the stems were then pollarded at heights of 7′ from the ground level. The roots were then coated with wet clay and packed with grass and leaves; the cut ends of the stems were also smeared with wet clay to prevent drying up. The trees thus prepared were transported within 24 to 48 hours of uprooting on lorries to the Chamundi Hill from Metikuppe and Hunsur areas over a distance of 40 to 80 miles and planted straight away in previously prepared 2' cube pits on the hill. The earth was well rammed in so that the stumps were securely fastened to the soil. Immediately after planting, one or two potfull of water (4 to 6 gallons) were poured into each pit. As the planting was done on fairly steep hill slopes, a small mound of earth about 18″ high and 4′ wide was made on the lower side of the pit and this was supported from being washed down by small rubble stones, well packed around it. Thus, any meagre rain water that flows down the hill slopes was caught in the pits and retained by the mound.

The whole operation of uprooting, stumping, transporting and planting of the trees was carried out after the first, adequately heavy, pre-monsoon rains at the end of April and early in May.

Sir H. Howard, Intpector-General of Forests, India inspected the plantation in December 1940 and expressed that the tree stumps would not be able to survive their first summer. Similar views were expressed by the Inspector-General, Hyderabad. Contrary to their expectations, however, the operation proved a success, with the dry season casualities amounting to barely 5 to 8 per cent.

Between 1940 and 1942, about 17,800 tree stumps of 40 different species were put out on the hills of which about 9,180 were surviving at the end of 1946 when statistics were collected by me for the last Silvicultural Conference. The percentage of survivals are :- *Boswellia*

*serrata* 79.2, *Garuga pinnata* 67.4, *Protium caudatum* 95.9, *Bombax malabaricum* 30.7, *Pongamia glabra* 44.7. Among those which completely failed are *Grewia tiliaefolia, Albizzia odoratissima, Terminalia belerica* and *T. chebula, Bridelia retusa, Bassia latifolia, Wrightia tinctoria, Kydia calycina, Gmelina arborea* and *Stephegyne parvifolia.*

Tree stumping is thus a method of creating tree growth on bare hill slopes and other dry places and of securing straight away a low forest consisting of trees of moderate size whose foliage is out of reach of cattle. Its practice is, however, restricted to a few suitable species which lend themselves to transplanting at a late age. These are, however, of low economic value, but the main object namely that of securing any kind of tree growth to improve the aesthetic effect on the hill has been more or less secured.

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# News and Views.

## CENTRAL BOARD OF FORESTRY.

The Government of India have constituted a Central Board of Forestry to secure close co-ordination in forestry matters and more especially in integrated use of land and help in maintaining adequate standards in forestry education. It will consist of the Union Minister of Agriculture as the Chairman and the following members:

The Ministers in charge of forests of Group A and B States and of two of the Group C States, the Secretary to the Central Ministry of Agriculture, the Joint Secretary, Central Agriculture Ministry (ex-officio Secretary), the Inspector-General of Forests, Government of India and the President, Forest Research Institute, Dehra Dun.

The functions of the Board will be (1) co-ordination and integration of the forest policy pursued by States in the management of their forests; (2) the adoption of conservation measures affecting forest resources and soil; (3) integration of plans for land use and national reconstruction in which forestry has come to play a progressively important role; (4) promotion of legislation considered necessary

for various States for the management of private forests; (5) regulation and development of forests in inter-State river valleys, which are the concern of the central Government; (6) maintenance of adequate standards for training of officers; (7) co-ordination of forest research conducted in Central and State institutes and (8) any other matters affecting forestry, which are relevant to the objective of the Board.

With the urge for the industrial and agricultural development of the country generated by recent constitutional changes, forestry has come to assume a vital roll calling for concerted action in such inter-State matters as soil conservation and food control measures, development of industries and standardisation of timbers, evolution of forest management and legislation for the control of private forests-regulation of river valleys and preservation of tree growth in head, waters.

The Board will meet at least once in two years.

The Chief Conservators of Forests and Secretaries to Governments will be entitled to attend meetings of the Board along with their State Ministers.

## NEW PRODUCT FROM NEEM TREE.

### Use in Treatment of Skin Disease:

The medicinal Indian tree '*neem*' or '*nimba*' has yielded yet another useful product, the nimbidin, which can be used for a number of pharmaceutical preparations and specially in the treatment of malaria.

Evolved at the laboratories of the Council of Scientific and Industrial Research, preliminary pharmacological studies with nimbidin and sodium nimbidinate were recently carried out in the Lucknow Medical College. These investigations are stated to have shown the efficacy of nimbidin in the treatment of various skin diseases like eczema, scabbies, arsenical dermatitis, furunculosis and different types of septic sores and ulcers due to burns.

Among others, they can be used for gargle in sore throat and are also said to stimulate uterine contractions.

Botanically called the *Azadirachta indica*, neem possesses curative properties which are well known through the ages.

Every part of the tree is used in indigenous medicine. Its twigs are used for cleaning teeth and serve as both brush and paste. Decoction made of its leaves and bark is good as a febrifuge and its bark and dry flowers as a tonic after fevers. The leaves and bark are also employed for healing unhealthy wounds and ulcers and in the treatment of a wide variety of skin troubles, jaundice, prurigo and liver complaints.

The fruits are reputed to act as a purgative emollient and anthelmintic and are employed in the treatment of intestinal worms, urinary troubles, piles etc. The neem oil (margosa oil) which constitutes nearly 45 per cent of the seeds, is largely used by the villagers as a hair tonic and is particularly reputed as a cure for rheumatism, scrofulous glands, leprosy and a variety of skin affections.

Neem is also supposed to have some repellent property against some insects, especially the cloth moth *(Tinea pachyspilam* and *Trichophaga abruptellal).* Shop-keepers and peasants store their woolen clothes with dried neem leaves. Russians have observed that plants sprayed with concentrated extract of the leaves in water were avoided by locusts. They also found that sprays with the neem extract were also useful against aphids.

The neem oil is produced by a number of industrial firms and also on a cottage industry scale in the rural areas, and more recently some pharmaceutical firms are utilising neem oil in the preparation of medicinal soaps and tooth pastes.

Although a correct estimate of the enormous quantities of the neem seeds which are wasted for want of adequate demand and consequent lack of organised collection can be arrived at only when a proper survey is carried out, it appears that quantities sufficient for establishing an economical unit for the production of nimbidin preparations would be easily available.

## ATOMIC RESEARCH IN PLANTS.

**Special green-house constructed:**

The U. S. Atomic Energy Commission and the Department of Agriculture, announced the completion of a specially-designed greenhouse at nearby Beltsville, Maryland, for research in plants and soils with radio-active isotopes.

One of the important peace-time projects made possible by atomic energy, this research will provide new and valuable information on many fundamental aspects of soils and nutrition studies using radio-active phosphorus, have already established basic facts which show how different crop plants make use of this element in varied types of soils. These "tracer" studies have been in progress for the past three years.

The new building will permit an expansion of these investigations and the work will be enlarged to include other radio-active elements. Calcium, zinc and sulphur will be used in the near future

## GAME ON THE PALNIS DECLINING.

It is stated that generally game on the hills is on the decline due to the increase in the number of guns and poaching in in-accessible areas.

Wild elephants were seen frequently in Velancombai, and other teak plantation areas. Herds of bison were noticed near Mathikattan *shola* and Kukkal Reserve Forests. Panthers were roaming about the hills, especially near Perumalpuram. One was reported to have been seen in the heart of Kodai town before the Municipal office. A tiger appeared near Pambarpuram and killed a cow. Sambhur were found in reasonable numbers in Berijam, *Marian shola*, and the *Bear Shola* Reserve Forests. While jungle sheep were found in plenty, Ibex was on the decrease. Among the game shot during the year was one panther.

Trout in the Pulavichiar, on the upper Palnis, was in a good condition. Mirror carp was found in the Bryant pond. The Kodai Lake contained several species of carp, besides innumerable small fish.

## NEW THEORY ON ORIGIN OF LIFE.

**Soviet biologist's claim:**

A Soviet woman-biologist claims that Russian scientists are near solving the secret of the origin of life.

Speaking over the Moscow Radio, Prof. Olga Lepeshinskaya said the new Russian theory of living matter, which completely threw down the "reactionary" idea that life did not exist outside the cell, opened the way to victory in the struggle against disease, old age, and opened new ways for the healing of wounds and the restoration of lost tissue.

The old cell theory, Prof. Lepeshinskaya said, fettered medicine and biology by limiting life to the cell, and placing the cell itself under the influence of some supernatural force. She claimed to have proved that cells developed from what she called the "living substance".

Soviet scientists had made experiments using methods "of the newest kind," showing this development. "Today, in any laboratory the scientist can produce a living cell from either the white or the yolk of an egg, that is to say from substances, which were hitherto considered to be only a means of nourishment for the embryo.

Living substance, and every kind of protein substance existing in nature is capable of metabolism, of development, although it has no cell structure." she added.

## REMAINS OF BIRDS 14 FEET TALL.

FRAGMENTS of thousands of eggs of the moa—a giant, flightless bird that has been extinct for hundreds of years—have been found in the Hawke's Bay district of New Zealand.

Bones found in some isolated caves in a mountain area of New Zealand's South Island are also believed to be those of moas which stood about 14 feet tall.

One theory is that the moas found their way into the caves and slipped accidentally into pits. Unable to get back to the outer world, they perished miserably.

Is there a possibility of a moa being alive to-day?

No, say the scientists, but some natives of New Zealand believe otherwise. Some reported actually seeing a live moa last century. A Mr. Walter Mansell was so impressed that he spent months trying to locate one. All he found was a collection of moa bones which the British Museum trustees bought for £ 200.

It is believed the Maoris of New Zealand feasted on moas as long as any remained. Charred moa bones and eggshells have been found mixed with charcoal where the native ovens were made. And moa eggs have been found in Maori graves.

An immense number of bones, estimated to represent at least 500 moas, were found near Oamaru in 1891. Why the living birds all stood together and perished at the place where their remains were exhumed still puzzles investigators.

## HIGH BIRTH-RATE OF JAPAN

**Rice diet responsible, says Tokyo doctor:**

Rice is responsible for Japan's high birth-rate, according to Dr Keizo Kodama of the Medical Department of Tokyo University.

Dr. Kodama has discovered that acid found in rice increases the activity of both male and female reproductive organs.

Similar study is being carried out in a Canadian Laboratory.

## EROSION NEAR RATNAGIRI.

Erosion is caused by the onrush of seawaves during the last 12 years uprooting about 2,000 coconut palms, sweeping out of existence paddy fields, residential houses and premises.

Government, it is learnt are giving their careful attention and very anxious thought to the problem.

# Do Yo Know:

**How old is tea-drinking?**

The Chinese say that their emperor Shen-Nung was the first tea-drinker in 2737 B. C. He is supposed always to have boiled his drinking water, and one day some leaves from the twigs that were crackling under the pot fell into it; liking the resultant flavour he investigated and found that the twigs came from the wild tea plant. Indians claim that in 519 A. D. the saintly Darma, feeling drowsy during a self-imposed seven years' contemplation of the Buddha, absent-mindedly plucked a few leaves from a nearby tea plant, chewed them, and felt revived. First mention of tea-drinking in Chinese literature is of the fourth century A. D. and in 780 a writer named Lu-Yu produced a pamphlet in praise of it. Giambattista Ramusio, a Venetian, first brought tea to the notice of the western world in 1559 when he edited an account by a Perian merchant, Hajji Mahomet of travels in China, and so the tea-drinking habit gradually spread westwards—to Holland in 1610 and to London in 1657. Then British colonists took tea to the New World where 87 4 millions of pounds of it are now annually consumed, though the United Kingdom easily beats this with its 443 millions.

**What makes plants grow upwards?**

*Geotropism* (from Greek *geo*, earth and *tropos* turn) is a term used to describe the inherent resistance to the force of gravity of the stems of plants as distinct from the roots; an English experimental botanist, Thomas Knight, first demonstrated the existence of this phenomenon. Basically, it may be said, that the environment of a plant provides stimulus to its growth and the visible reactions of a plant to its environment are known as irritabilities; *geotropism* is one of these reactions and one about which botonists are still trying to get more information. It is thought it may have to do with transpiration, the procees of loss of water vapour, when the water, which the plant has aborbed, rises forcing the plant tissues upwards; atmospheric pressure and root-pressure are also thought to contribute to transpiration; while the phenomenon of geotrophic curvature is seen even in plant organs which have normally ceased to grow, such as when a piece of wheat is placed in a horizontal position and is seen to start into growth through gravity stimulus – the stem turning upwards (negative geotropism) and the root downwards (positive geotropism).

—From 'The Hindu.'

# Extracts.

**Re-forestation of Moving Sand-dunes on the Carmarthanshire Coastline in South Wales, exposed to extremely Violent Winds:**

After many attempts, afforestation was begun, using Corsican pine (*Pinus nigra* var. *Calabrica*) with a small mixture of Australian pine (*P. nigra* var. *austriaca*), *P. contorta* and spruce. Corsican pine proved highly successful because the root system of this species grows very vigourously. The plants were supplied by a small nursery located in the vicinity of these sand-dunes. At first, two-years-old plants, transplanted after one year, were used and later on, three-years-old plants which had been transplanted for two years. The plants were fairly closely spaced, 4′-3″ apart in each direction. The fringe trees with their lopped-off crowns and wind-twisted trunks afforded excellent protection to the remainder of the plantations. The stands were originally assisted by seeding or planting with marram grass (*Psamma arenaria*, a native species,) sand sedge (*Carex arenaria)*, Creeping willow (*Salix repens*,) Sea buckthorn (*Hippophae rhamnoides*) and other stabilizing species.

The first thinnings were recently made in the plantation, which is now the forest of Pembrey. They produced a large quantity of posts and small pit-props. *An interesting feature is that after twenty years of protection against wind and sand, together with proper drainage, the land situated immediately behind this forest has been transformed from un-usable wasteland into first-class agricultural land.*

— Unasylva. Vol III, No. 4; July-August'49.

**Wood Flour from Saw-mill Refuse:**

The disposal of saw-dust and wood chippings from the saw-mills has always been a problem, but atlast a profitable means appears to have been found of utilizing these waste products. That is by converting them into wood-flour, a material used in the manufacture of plastics and linoleum, in tin-polishing, and in the processing of leather.

This has been made possible by the enterprise of Messrs. Beecrofe and Wightman, of Hull, whose £ 30,000 plant, said to be the only ont of its kind in the world, is now turning out wood-flour at the rate 10 cwt. an hour, entirely from saw-mill refuse.

The whole mill is remarkably clean and those working in it bear no resemblance to the "dusty miller" of tradition. Dust from the

process, which would mean waste, is eliminated by dust extraction, and a dual purpose is served, for the mill is kept clean for operators to work in, and many sacks of fine flour are thus obtained.

—Quarterly Journal of Forestry. Vol. XLIV. No. 2. April 1950.

**Effect of Defoliation on Conifers :**

Defoliation of the crown, whether by fire, insects, disease, or other causes, immediately diminishes the increment, the reduction in growth being directly proportional to the degree of defoliation. Reduction in diameter growth is usually greatest near the base of the tree and less in the upper parts of the stem. The tree's prospects for survival and resistance depend to a large extent upon its vigour before defoliation. There are, however, exceptions to some of these general rules. Some species such as spruce, fir and larch, increase growth at the base of the stem during the year following defoliation caused by fire. There are also exceptions among certain other species to the rule of maximum loss of growth at the base of the tree. Finally, it has been noted that certain pines (*Pinus palustris* and *P. caribaea*) can survive total defoliation caused by fire. It would be of value to know the reasons for such exceptions and to determine whether they apply also to other species.

— Unasylva. Vol. IV, No. 1. Jan-March 1950.

**Symbiosis between wood ants and spruce and birch trees :**

For a number of years occasional observations have been reported from the U. S. S R. of a unique, mutually beneficial symbiosis between the common brown mound-building wood ants (*Formica rufa*) and spruce and birch trees. The ant-hills, when opened, are found to be filled with a thick network of inter-mingled fine root-lets of the trees, around the base of which mounds are built. The branchlings at the end of the roots, contrary to the habit of roots to grow downward, actually grow upward. The trees whose roots are enmeshed in the ant-hills appear in better condition, on the whole, than the neighbouring trees which have no ant-hills at their base. (The same effect has been observed in the case of some berry-producing plants (as *Rubus saxatifolis*) which grow luxuriantly in proximity to ant-hills and less so where they lack them.) The reason is that, while the ants find among the roots a ready-made and living structure into which they can easily build their galleries, inturn provide access for air into the relatively compact forest soil in which the northen spruce and birch grow. Thus the tree benefits by better aeration—an important factor for plant growth.

— Unasylva. Vol. IV. No. I. Jan-March 1950.

# NOTICE.

Dr. G. S Puri, Ecologist, Forest Research Institute, has offered a prize of Rs. 50/- in books, to be known as "Hara Singh Puri Memorial Prize" for the best Essay on Forest Ecology. The subject of the essay for this year is:

'The Edaphic Factors in Forest Ecology'.

The Essay is open to the students of all the Forest Colleges in India. Other conditions of entry are:—

1. All essays must be in English and should not be more than 25 typed foolscap pages. These should be duly certified by the head of the College as the student's own attempt.
2. No essays will be returned to the writer nor any correspondence entered into.
3. Any essay may be used for publication in the "Indian Forester" by the Judges.
4. All entries must be sent to Sri. V. P. Mathur, Principal, Indian Forest College, Dehra Dun.
5. The closing date for the receipt of entries is 15th October 1950.
6. The essay will be judged by a board of Judges formed by:—
   1. V. P. Mathur, Esq., Prof. of Forestry and Principal, Indian Forest College, Dehra Dun.
   2. Dr. R. D. Misra, Prof. of Botany, University of Saugor, Saugor.
   3. Dr. G. S. Puri, Ecologist, Forest Research Institute, Dehra Dun.

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